Marine Corps Gazette

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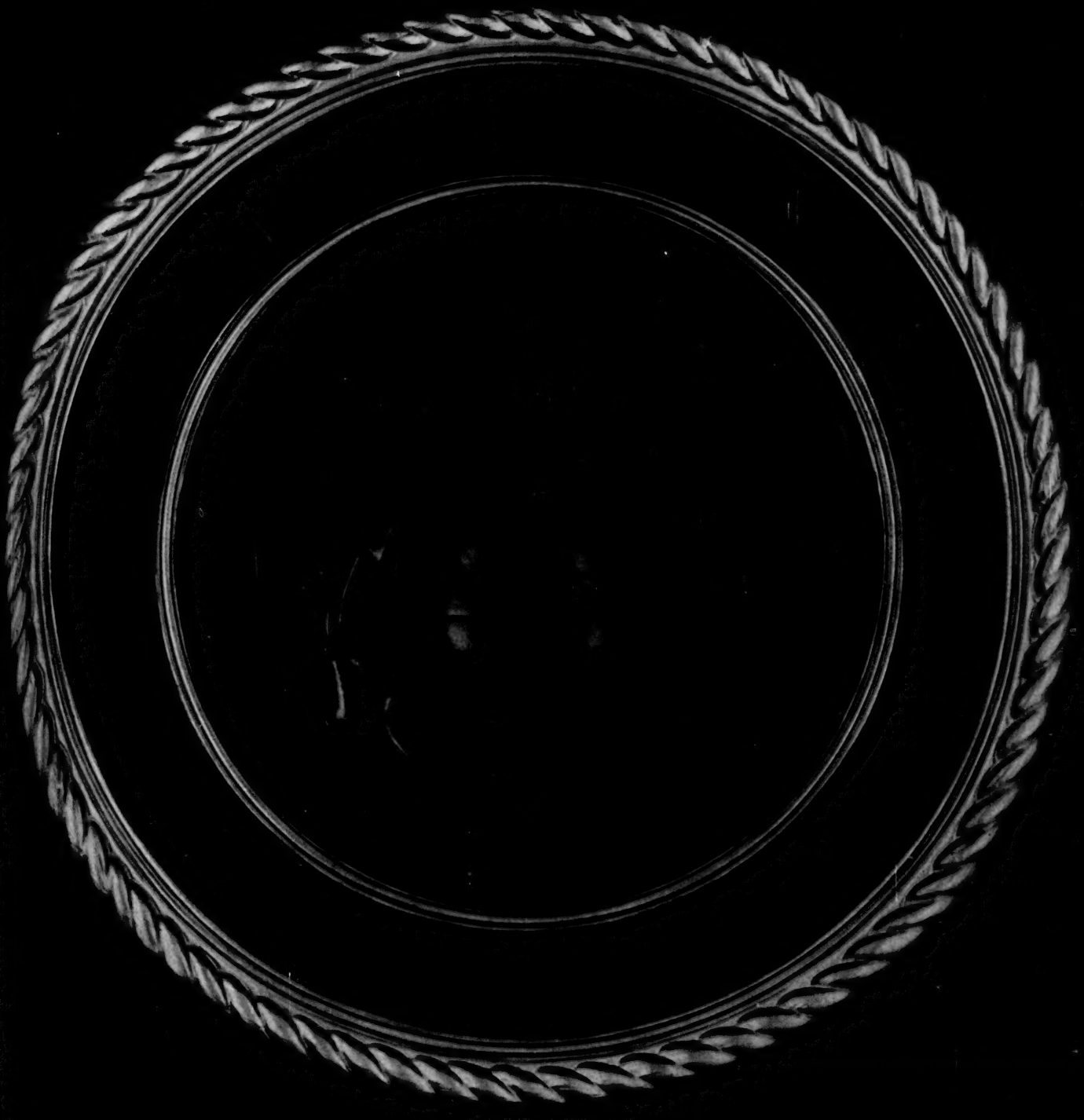


Marine Corps Gazette

NOVEMBER 1958
NUMBER 11
VOLUME 42

PROFESSIONAL MAGAZINE FOR UNITED STATES MARINES

Published by the Marine Corps Association in order to provide a forum for the expression of matters which will advance knowledge, interest and esprit in the Marine Corps

IN THIS ISSUE

THE JAPANESE ARMY IN THE PACIFIC WAR (GUADALCANAL) — *Saburo Hayashi & Dr. Alvin D. Coox* — 8

THE BATTLE OF VALCOUR BAY — *2dLt Ronald H. Greathouse* — 16

RESIDUAL RADIOACTIVITY AND THE GRAND STRATEGY OF THE UNITED STATES — *Dr. Edgar A. Parsons* — 20

A TOUCH OF TRADITION — *LtCol John H. Magruder, III* — 32

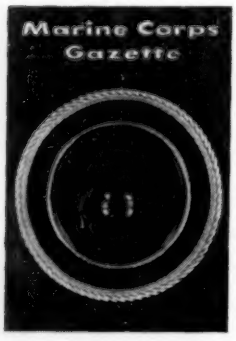
HEADQUARTERS MARINE CORPS ORGANIZATION — 36

DECORATIONS AND AWARDS — 38

WHY A MARINE CORPS? — *LtCol John A. Crown* — 40

ZHUKOV, KHRUSHCHEV AND THE RED ARMY — *BGen Samuel B. Griffith, USMC (Ret) and John Erickson* — 48

LET'S FACE IT — *LtCol E. H. Railsback* — 52



MESSAGE CENTER — 2

IN BRIEF — 34

OBSERVATION POST — 62

BOOKS ON PARADE — 64

PASSING IN REVIEW — 66

THIS MONTH'S COVER . . . . . Official Seal of the US Marine Corps

PUBLISHED MONTHLY BY THE MARINE CORPS ASSOCIATION

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Advertising Representative: Shannon & Associates Inc., New York (28 West 44th Street), Chicago, Atlanta, Cleveland, Detroit, Los Angeles and San Francisco. Printed at 32nd St. and Elm Ave., Baltimore 11, Md.

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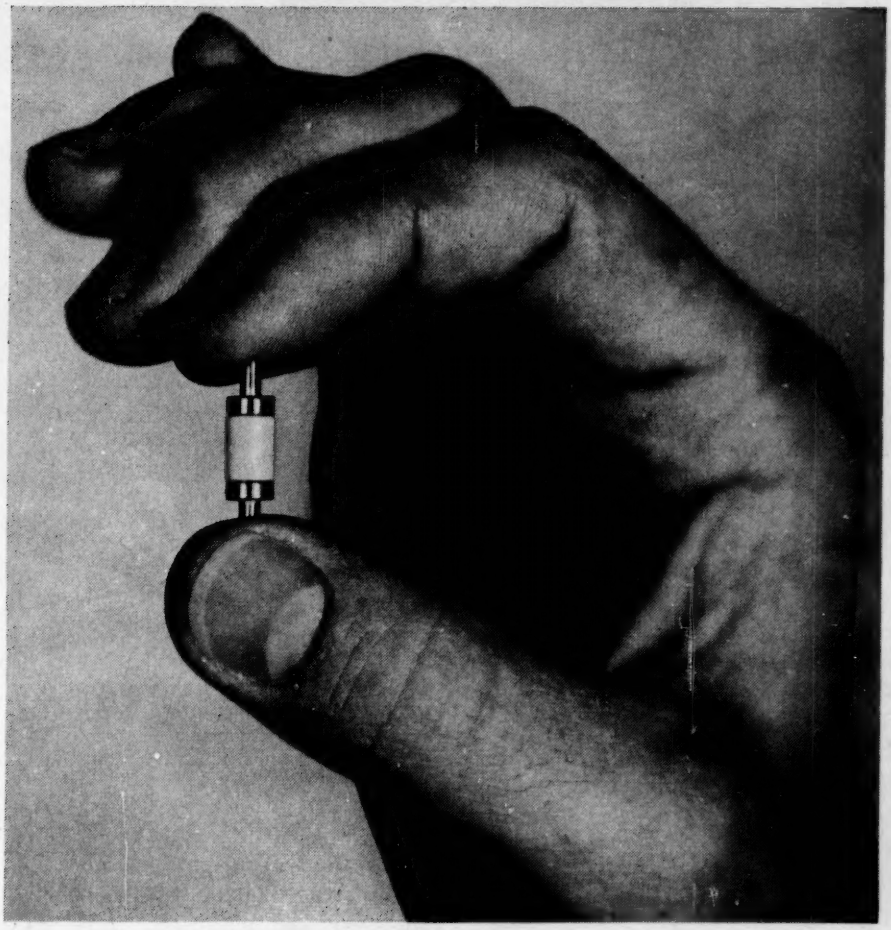
NEW DIODE SPEEDS VOICES—



AT 6,000,000,000 C. P. S.

How the radio art can be improved through solid state science is illustrated by a recent development at Bell Telephone Laboratories. To make voice signals travel by microwaves they must first be "converted"—caused to vibrate at billions of cycles per second. To date, it has been possible to accomplish this conversion only at the cost of appreciable loss of signal energy. Could a more efficient converter be provided?

In the field of solid state science it was known—as a laboratory curiosity—that semiconductor diodes can be made not only to convert the frequency of signals, but also to amplify them. At Bell Laboratories Dr. Arthur Uhlir, Jr., and his associates calculated that this amplifying action could be put to practical use. They proved the point by developing a junction diode converter which can deliver up to 40 times as much signal energy as previous converters.

This efficient new converter will be applied in a new Bell System microwave highway able to transmit thousands of telephone conversations and a dozen television programs simultaneously at six billion cycles per second. In other forms it is being developed, under U. S. Army Signal Corps contract, for radar and military communications where more efficient frequency conversion can also be used to advantage.

This development is an example of the many different ways in which the Bell System works to improve your telephone service and communications at large.

BELL TELEPHONE SYSTEM

Blues/Utilities

. . . *What's the matter with standard Marine uniforms?* The question will probably cause some puzzlement, but I have a special reason for asking. The recruiting service in my opinion is doing a great deal to lower the value of the blue uniform. The blue uniform, in my opinion, is the utmost in formal wear — the attire that should be used with discretion for special affairs. It is *our* dress uniform. Yet in the recruiting service we wear it constantly. We go about in the snow, rain, sleet and heat with it. We change tires and "A" signs in it. We wear it for every occasion whether it be visiting a mushroom house to see an applicant or any other place.

The dress uniform has become a utility uniform. The blues are worn whether we are at a military ball or a dog show. The constant wear of the blue uniforms by the recruiters, to my mind, has down-graded it. Many people believe it is the only uniform we have and many a recruit has been disappointed to find out he will not receive one in Boot Camp.

I feel the blue uniform should be put back where it belongs — a dress uniform, to be worn on special occasions, color guards, Marine Corps Birthday, formal dances, banquets, etc. The object of wearing a blue uniform of course is to stand out and let the people know who and what you are. I contend a good recruiter can recruit regardless of what he is wearing. If he is not "squared away" no uniform will make an impression.

We wear the blue trousers all year round. Walking down the street in blue flannels in 90-degree heat, you look as much out of style as a "bikini" in the Arctic. Why in the world can't we wear regular Marine greens and tropicals. Surely a good NCO will make as much an impression if he is squared away in one as well as the other. Clean, pressed greens in the winter, I am sure, would produce the same results as the blues. The same is true of our tropical uniforms in the summer.

Another thing that gets me is why doesn't the Marine Corps design a blue overcoat or raincoat to be worn with the blue uniform? The Marine Corps has a reputation for being outstanding in its appearance, yet we walk around with a blue uniform and a green overcoat. This defies all the rules of proper dress. No one would dream of wearing green coats and blue trousers, yet there we are.

Let's put the blue dress uniform back where it belongs, as a uniform that maybe if the civilians are lucky they may see a Marine in one.

SSgt R. J. Goldsmith

USMCRSS
Customs House
Wilmington, Del.

Physical Conditioning

. . . I would like to express my concurrence with Capt A. C. Smith's proposal in the Message Center of the July issue and to add a few refinements which I have been using. At present I have the Marine Detachment aboard a CVA and in order to comply with the intention of MCO 6100.3, I exercise my troops for 30 minutes each day. This is normally done at the completion of working hours in order to allow the men to shower when we finish. I find by increasing the number of push-ups, squat-thrust, etc. of the required exercises each day, that within several weeks we are able to do the entire test daily with only slight variations due to the confines of the ship. We can not do the 440 yard dash, but with a combination of wind sprints and jogging, the same result is achieved.

Semi-annually, as suggested by Capt Smith, I arrange to administer the test ashore. Needless to say, my men breeze right through it and are playing a strenuous game of football before the last of us are finished. I had a few failures, of course, but most of them were in the 440-yard dash. In most cases I believe that this was due to running in field boots since we had only a few pairs of tennis shoes.

The results of the test were posted in our living compartment and an entry made on Page 11 of each man's SRB. This entry showed that the test had been administered on a specific date and was successfully completed or successfully completed with the exception of . . . . Posting the grades in the compartment gave the men an added incentive to excel. Making an entry on Page 11 shows me or the man's next CO where the individual needs additional conditioning.

This daily conditioning also has certain side benefits. I noticed a definite increase in morale when the program was started due to the competitive interest we tried to engender. I also feel that it enabled us to win the "Captain's Cup" for intramural excellence.

In a combat ready outfit like ours, everybody under 45 years old must be in top physical shape. This can only be accomplished by *mandatory daily conditioning.* I feel that the system I am using and recommending to other commanding officers will bring us much closer to the goal intended by MCO 6100.3.

Capt W. E. D. Shepherd

Marine Detachment
USS Ticonderoga, CVA-14
FPO, San Francisco, Calif.

(Continued on page 4)

★

The GAZETTE will pay $5.00 for each letter published in Message Center

★

Cat D9 Tractor with No. 9 Ripper and 'dozer attachments helps clear radar site atop Judith Mts., near Lewistown, Montana

MOUNTAIN-TOP RADAR SITE CLEARED—"ON THE DOUBLE"

15,000 cubic yards of cyanite rock excavated in 72 hours

The U. S. Army Corps of Engineers was requested by the Air Force to build a Radar Station 1,800 feet atop rocky Judith Mts., Montana. The Air Force didn't care how it got there—only that it got there and in a hurry.

Parker, Schram and Dack Construction Company, Milton-Freewater, Oregon, got the message from the Engineers, and went right to work.

In order to excavate and clear the site, a granite-type rock, cyanite, had to be loosened and removed. In hopes of eliminating the extra expense of "shooting" the rock, a Caterpillar D9 Tractor, equipped with a No. 9U Bulldozer and a No. 9 Ripper, was brought in. Utilizing the weight of the big 30-ton D9, the exclusive "Hi-Electro" hardened steel ripper teeth managed to handle 98% of the cumbersome rock, reducing the "shooting" operation to a negligible two per cent. In just two 8-hour shifts, a radar site, 50 feet in diameter and 5 to 6 feet deep, was cleared.

In addition to the site-excavation, 6 miles of a 20-foot access road, from cantonment to the mountain top, were ripped, 'dozed and made accessible. Here's what Wm. L. Hart, Supt., has to say about the No. 9U Bulldozer with Hydraulic Tilt Cylinder attachment: "The tilt 'dozer is a wonderful thing. It moved material for fill as far as nine hundred feet." As for the 320 HP (flywheel) D9 itself, Supt. Hart sums up: "It's a good machine."

Caterpillar Tractor Co., Peoria, Illinois, U.S.A.

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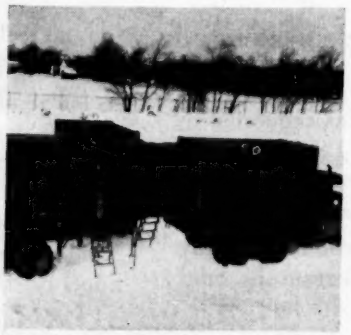

Mobile system of multiple Helicop-Hut modules joined by weathertight areaway.*

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(Continued from page 2)

Leadership

. . . Sgt L. E. Dye, Jr., in his article in the AUGUST GAZETTE, "Make 'em Professional and Ship 'em Over," presents an incisive picture of some of the fundamental ills of the Marine Corps today, and offers some excellent suggestions to cure them.

There is little doubt that a good part of the problem is the size of our Corps today when we are in a non-war, non-peace situation. As Sgt Dye points out, we now have as Marines all too many men who do not particularly like military life of any kind, but are serving because they must. The fact that they voluntarily chose the Marine Corps is an encouraging starting point, however.

It has been my observation that even our "short timers" will respond to vigorous, intelligent leadership. Once the men know what is expected of them as long as they are Marines on active duty, and they are held to it consistently, they will do what is expected of them, and often much more.

Interesting, sound instruction and meaningful, realistic training at all unit levels are also very important in moulding aggressive, "gung ho" Marines.

Last, but perhaps most important, all leaders, from NCOs to senior officers, must consistently set the example by their own actions, and corrective action when needed. When our young Marines are given a truly professional organization to feel a part of, the re-enlistment rate is sure to increase.

1stLt D. H. Grafft, USMCR
297 Eastwood Dr.
Jacksonville, NC.

Bren-Carrier

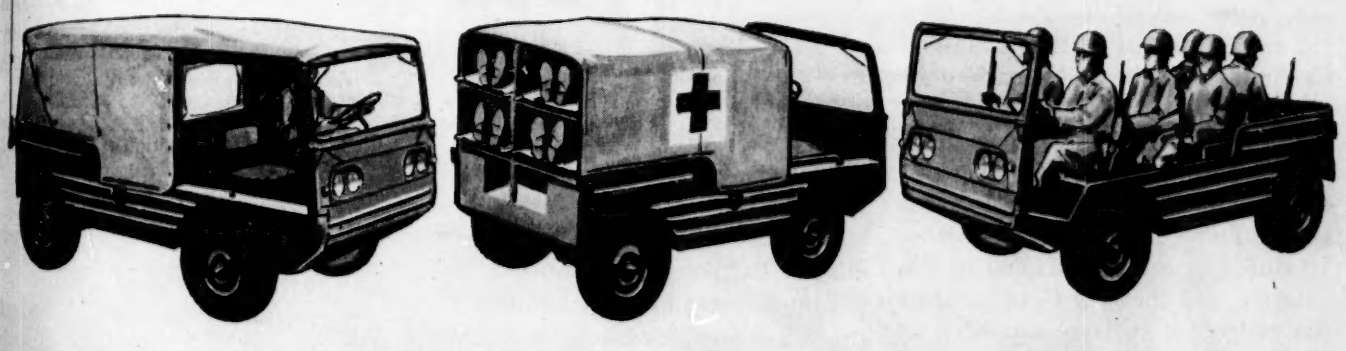
. . . I was very interested to see TSgt Sheehan's letter in the July GAZETTE, suggesting the use of "Bren-Carrier" type vehicles. I would like to add some background information on their use over here.

They are descended from the original Martel and Carden-Sloyd one man tanks, which were developed into: A) a machine-gun-armed light tank, used in great numbers by all contestants in early WWII, and which proved to be nearly useless

'Jeep' Convertible Cargo-Personnel Carrier

TACTICAL MOBILITY

Another 'Jeep' vehicle meets the challenge!



This new vehicle is designed for mobile, hard-hitting ground forces. It has 4-wheel drive traction and 4-wheel steer maneuverability to move over all types of terrain. It's air-dropable! Three Convertible Cargo-Personnel Carriers can be shipped in the space of a single ¼ ton truck. Yet, the Convertible Cargo-Personnel Carrier does the work of a **three**-quarter ton truck. It weighs 1500 pounds and **carries** 1500 pounds—anywhere!

It converts to a fully enclosed personnel carrier... an ambulance that takes four patients... an electronics vehicle that relays news of the battle by radio and television. Seats fold into the platform for quick conversion to a cargo carrier.

'Jeep' vehicles are produced by Willys Motors—**the** specialist in the lightweight tactical vehicle field. For full information about the Convertible Cargo-Personnel Carrier, write to **Willys Motors, Inc., Toledo 1, Ohio.**

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(Continued from page 4)

death-traps; and B) a small armored carrier to transport a machine gun and its crew from one fire position to another.

Attempts were made to use the latter for mounted action, failure being the usual result, as their light armor and armament were insufficient to cope with the amount of hostile attention that their relative conspicuousness (compared with an infantry machine gun team) attracted.

They were also widely used as APC's but as they had not been designed for this role, suffered from lack of capacity.

For transporting heavy weapons and keeping them and riflemen fueled with ammunition, often under enemy fire, they were invaluable. In Korea, owing to the more settled state of the front line during the latter part of the war, they lost favor, the jeep with its increased load capacity and greater reliability than can be obtained from tracks, being preferred.

They are still used by the mortar and medium machine gun platoons of some infantry units, but the introduction of "Saracen," a 6x6 APC, an armored 1 ton, 4x4 truck said to be better cross country than any jeep type vehicle, and of large numbers of ½-ton "Sandrovers," has caused them to lose ground again.

A better vehicle for the job than our rather ancient (1936) "Universal Carrier" might be the French light tracked APC, which is larger and could carry a fire team as well as its crew, but is smaller and much less conspicuous than the M59. It has been estimated that it could be mass produced at a cost of £4,000 in this country, and the new German army has ordered it in large numbers. If combined with another French invention, the wire-guided anti-tank missile, 3 of which are at present mounted on a part-armored jeep, it could provide the equivalent of a heavy-gun tank, air-transportable in large numbers.

This would be true versatility.

Philip Barker

99 Brentford Rd.
Kings Heath
Birmingham 14, England

The System

. . . Congratulations on your excellent edition of August 1958. May I comment on a letter which appeared in the Observation Post and a letter which appeared in the Message Center of that issue?

In the Observation Post, 1stLt Cody complains that many men are being promoted to the NCO ranks without being really qualified to serve as such. He blames the Marine Corps promotion system for this. Not so. Would the Lieutenant, and many other officers I have heard voice the same complaint, please examine their Marine Corps Manual on the subject of promotion of enlisted men?

Before a Marine can be declared eligible to take a promotion examination he must have, in addition to the other qualifications, a recommendation from his commanding officer. Even if he passes the examination, an NCO promotion board is required to recommend him again. And, of course, the commanding officer is in no way required to accept even a favorable recommendation of the board.

So if you are concerned about the low caliber of some of your NCOs, don't blame the system. Put the blame where it belongs – on commanding officers who fail to erect high standards for promotion.

The letter I mentioned dealt with the "New Drill," and was signed by Maj F. H. Campbell. This is the latest in a long line of communications claiming that the 13-man squad drill is "too difficult." Without wishing to appear critical may I submit that it and its predecessors are all too typical of the anti-Gung Ho or no-can-do spirit. The only real difficulty I have found in teaching this drill is the difficulty involved in getting staff NCOs to break open NAVMC 1131 and to spend the hours allotted to troop and drill on any training schedule to teaching it to the men.

I will give you a horrible example. I recently took command of a ship's detachment made up entirely of men who passed through Sea School since the inception of the "New Drill." Not a one had ever heard the commands for a squad at close interval and distance.

"We never had this at Sea School." I have been assured. "They taught us fancy drill."

The Drill Manual calls for short frequent periods of drill. Just try getting on the field with your men for 40 minutes a day for one month, and teaching the drill paragraph by paragraph right out of the book. I think that even the fast-moving Marine Corps of today can spare that much time from 96 hour liberties and Wednesday afternoon athletics.

Capt D. C. MacMichael

MD, USS Galveston, CLG-3
c/o FPO, New York, N. Y.

Oops!

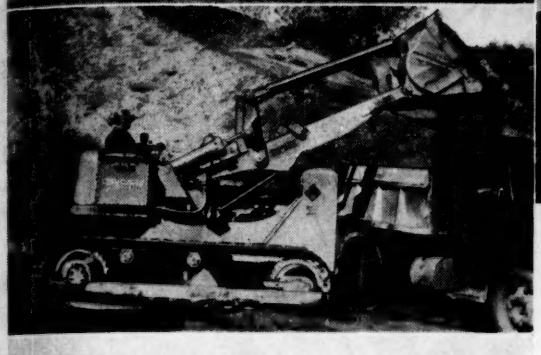
. . . In the August issue of the GAZETTE, page 33, the last paragraph reads in part, "... with a heavier barrel and tripod it is called M15." Shouldn't *bipod* be more like it?

If you stand on your statement then let's not bother with the M60 machine gun. Maybe you have something after all.

SSgt A. B. Robertson

Ord School, Div Schools
1st Mar Div
Camp Pendleton, Calif.

Ed: Bipod is correct — we erred.



M8A2 Ordnance cargo tractor

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THE JAPANE

ARMY IN THE PACIFIC WAR

GUADALCANAL

By Saburo Hayashi
In collaboration with Dr. Alvin D. Coox

Beginning in this issue, we are presenting the first of three selected chapters from Saburo Hayashi's book, *The Japanese Army in The Pacific War*, soon to be published by the Marine Corps Association. The publication of this book, in English, will make available for the first time a study of the Japanese military actions of WWII, strictly from the Japanese point of view. In order to preserve this point of view, no attempts have been made to alter, change or delete any portion of the original manuscript.

ON GUADALCANAL, SEVERAL HUNdred Japanese Marines and about 2,000 construction men were building an airfield. Not until 7 Aug 1942, however — when American troops landed on the island — did the [Japanese] Army High Command first become aware of the fact (that an air base was being constructed and that naval forces were involved). The Americans simultaneously came ashore at Tulagi.

Immediately after effecting landings on Guadalcanal, one division of US Marines seized the airstrip which was under construction. If the airdrome had only been completed and the Japanese Air Force had commenced operations, the New Hebrides and New Caledonia, as well as Australia and New Zealand themselves, would have been exposed to the threat. The American Marines therefore sought to capture the airbase before the Japanese could put it into operation.

Upon learning of the American landings on Guadalcanal, IGHQ — on 10 Aug — ordered the Ichiki Detachment and the Aoba Detachment (then undergoing training with the Fourteenth Army) to join the Seventeenth Army under Gen Hyakutake. Three days later, orders were issued to recapture both Guadalcanal and Tulagi, in addition to carrying out the Port Moresby Operation.

It is over 1,000 kilometers from Port Moresby to Guadalcanal. IGHQ nevertheless assigned 2 simultaneous area missions to the Seventeenth Army, because there were no other units to employ in the area immediately. IGHQ's outlook regarding the recapture of Guadalcanal was far too optimistic.

Saburo Hayashi, former Col on the Japanese Imperial General Staff, has served Japan in several important posts. In addition to normal military assignments, he was Attache to the Soviet Union. His final military assignment was: Military Secretary to General Anami, the last Minister of War in Japan. He served in this post until the suicide of General Anami at the time of Japan's surrender in August 1945.

Many sea battles broke out near Guadalcanal. In the first battle of the Solomons (on the night of 8 Aug), the Japanese Navy achieved good results because of its sudden attack. The second battle (on 24 Aug) was fought between aircraft carriers, and only slight losses were suffered by either side. In the engagement off Savo, during the night of 11 October, the US Navy took the initiative and the Japanese fleet was badly damaged. From 25 Oct through the night of the 26th, both sides incurred considerable losses during sea battles in the South Pacific. The third battle of the Solomons (which lasted from 12 Nov until the night of the 14th) resulted in comparatively great total success for the Japanese Navy. In addition, Japanese warships often threw American positions near the landing site into confusion, or bombarded the US defenses from the sea.

Because the Japanese Navy was short of strength required to secure mastery of the air or the sea, it was necessary to fight most of the naval battles at night. Since neither the sea nor the air could be controlled, moreover, the transportation of supplies to Guadalcanal was gradually severed entirely, and some of the garrison eventually starved to death.

The bulk of the Ichiki Detachment, transported in haste by destroyers from Guam, landed on Guadalcanal during the night of 18 Aug. Since the destroyers could haul only small quantities of weapons and ammunition, besides troops, the Detachment's firepower was accordingly very weak. In the course of attacks against the airfield, from the night of 20 Aug to the morning of the 21st, the Japanese suffered terrific losses from the dominant artillery and armor of the Americans, because of insufficient assault preparations. On the 21st, moreover, American light aircraft were already using the airstrip.

After the dispatch of most of the Ichiki Detachment to Guadalcanal, the remainder of that force, plus part of the Kawaguchi Detachment, were shipped in. En route to the island, however, they were attacked by American aircraft (on 28 Aug) and were never heard from again.

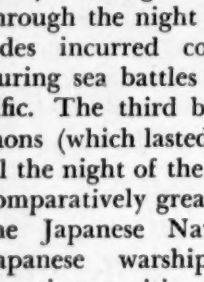
On 29 Aug, IGHQ transferred the 2d Division (commanded by LtGen Masao Maruyama, then on Java) to the order of battle of the Seventeenth Army. At the same time the Army was ordered to devote priority to the mission of recapturing the Solomons. (Until then, the Seventeenth Army had had the primary mission of conducting the Port Moresby Operation, and the secondary task of retaking the Solomon Islands; the emphasis was now reversed).

By 4 Sept the bulk of the Kawaguchi Force (including the Aoba Detachment's 3 infantry battalions from the 2d Division) had landed on Guadalcanal. On the night of the 13th, a second assault was launched against the airstrip, involving the main force of the Kawaguchi Detachment (about 5 infantry battalions) and the remainder of the Ichiki Detachment (about 100 men). The Japanese bravely attacked, and the decision remained in doubt for several hours while chaotic confusion gripped the fighting lines. Part of the Detachment once penetrated a corner of the airfield, but could not hold on to its gains because American reserves were thrown into the battle and a furious enemy bombardment was unleashed. As a consequence, the second Japanese attack also ended in eventual failure.

The Army High Command, after studying the methods of attack in practice till then, decided to change the operational principles, on 18 Sept. The old rough-and-ready ways of attack meant that troops would be rushed into an assault with insufficient strength. This concept was hereafter changed, so that frontal assaults would be staged only after all reinforcements had arrived and careful offensive preparations had been completed. The total combined power of both Army and Navy elements would thereby be exploited fully.

From the beginning of October, the 2d Division (Japanese) began to arrive at Guadalcanal in succession. Gen Hyakutake, the Commander of the Seventeenth Army, left Rabaul for the island on 8 Oct. After thorough assault preparations were then made, a third attack was mounted against the airfield on 24 Oct, with a force built primarily around the 2d Division.

The offensive raged with extreme fury, especially in the night. Nevertheless, the 2 armies' difference in air strength, artillery and other fire power, so greatly favored the enemy that the Japanese were forced to abandon their attack on the 26th. During this short period of the third attack upon the airstrip, about 2,200 men were lost.



Dr. Coox received his PhD from Harvard in 1951. He has instructed in history at: Harvard; Shiga National University, Japan (at the request of the Japanese Government); University of California; University of Maryland. He has served as Dept. of the Army Historian, Japanese Research Division, Office of the Military History Officer, Eighth Army.

Artist: Tamura' Konosuke

Japanese suicide unit in the jungle

In the course of the 3 offensives at Guadalcanal, the Japanese Army learned how dreadful was the ground fire of the Americans. Contrary to Japanese practice (whereby arms were mostly sunk at sea while being transported), the American forces landed with full equipment, and the subsequent movement of supplies proceeded smoothly. The American forces consequently had 6 or 7 times as many light and heavy machine guns as did the Japanese. In the expenditure of cartridges and shells, there was absolutely no comparison between the opposing armies.

During night attacks against American positions, which were constructed in several rows, the Japanese Army acquired further bitter lessons and suffered heavy losses. It was learned, for example, that if you couldn't break through the entire defensive system by dawn— and were hung up in the process — you would become exposed to murderous fire after daybreak. In the battles for the island, moreover, the Japanese Army keenly felt the impossibility of gaining victory as long as the command of the air and the sea was not assured.

Shortly after the failure of the third attack, front-line troops began to die of hunger. The maintenance of a flow of supplies was impossible, primarily because of the inferior strength of the Japanese Army and Navy.

In addition to suffering from hunger, nearly all of the officers and men came down with malaria and "Guadalcanal fever" (a malady characterized by diarrhea and a fever of about 100° F.). The situation had by now become critical.

On 17 Sept the 38th Division (commanded by LtGen Tadayoshi Sano) entered the order of battle of the Seventeenth Army. Part of this division reached Guadalcanal on 10 Nov, while the remaining troops arrived soon afterwards in succession. On 14 Nov, however, 11 first-class supply vessels, upon which the Army was depending, were sunk *in toto* by US aircraft. Although troop strength had been increased on the island, the transportation of supplies could not be sustained. IGHQ therefore ordered the Seventeenth Army, on 15 Nov, to hold on for the time being, under the present circumstances.

Starting about 18 Nov, US forces went over to the offensive in the direction of the coast. By desperate effort, the newly arrived 38th Division barely managed to check the attack. Both sides held against each other from about the 26th of the month.

The movement of supplies to Guadalcanal was repeatedly disrupted by US aircraft and the Navy. Once, on the night of 3 Dec, 8 destroyers successfully made the run, but the quantity of supplies which they brought in, sufficed for only one week's requirements on the part of the military forces on Guadalcanal. Each unit was therefore obliged to decrease the daily food ration to one-third or one-sixth the normal rate. From day to day the number of men down with disease or malnutrition grew ever larger.

During the period under discussion, the Japanese Air Force seized every opportunity and repeatedly endeavored to check reinforcement of the American forces. The Japanese launched sudden attacks upon air bases and bombed enemy positions. Lacking aerial supremacy, however, they could accomplish nothing but guerrilla-like action; the military re-

Artist: Ihara Usaburo

Kamikaze unit leaves Mito Airfield, Honshu

sults were negligible. As time went by, the disparity between Japanese and American air strength became constantly more pronounced.

American ground strength on Guadalcanal originally totalled one Marine division. By the end of September, approximately one more division had arrived. Thereafter, in the middle of October and again at the beginning of November, other reinforcements landed, although their exact size could not be verified. The total American troop strength on Guadalcanal could be estimated at about 3 ground divisions.

With the steady increase in tempo of the American Army counteroffensive in the South Pacific, IGHQ recognized the necessity for controlling all military operations throughout the region. On 16 Nov 1942, the order of battle of the Eighth Area Army was accordingly issued, the force to be under the command of LtGen Hitoshi Imamura and built around the Seventeenth and Eighteenth Armies.

The mission of the new Area Army was two-fold. First, it was to capture the Solomon Islands (in the Guadalcanal area), in conjunction with the Navy. Secondly, it was to secure strategic points on New Guinea, while preparing for subsequent operations in those areas. The Navy, employing most of the strength of the Combined Fleet, would cooperate with the Eighth Area Army.

On 23 Dec, IGHQ ordered the 41st Division (in China) and the 20th Division (in Korea) to join the order of battle of the Eighth Area Army. The 6th Division was simultaneously directed to enter the order of battle of the Seventeenth Army; and the 51st Division, to be placed under the control of the Eighteenth Army.

During November and December 1942, transport vessels bound for the Solomons were sunk in drastically increasing numbers. Violent disputes then arose between the Army High Command and the War Ministry concerning problems of requisitioning ships for operational requirements.

The High Command strongly insisted that Guadalcanal must be held securely to the very last, and explained that evacuation of the island was bound to provoke such violent counterattacks by the US forces that it would prove difficult for the Japanese Army to pull out its troops. In keeping with this line of reasoning, the Army High Command made firm requests upon the War Ministry to resolve upon insuring the transportation of supplies to Guadalcanal, which would require the requisition of 300,000 tons of shipping for the operations.

The War Ministry, however, held that the pressing needs of the country, at the present stage, necessitated the immediate reinforcement of the national war potential. They vehemently objected to any augmentation in requisitioned shipping for operational purposes. Non-military shipping space would have to be diminished proportionally in such

an eventuality, and this would result in hampering the reinforcement of the over-all war potential. In other words, the War Ministry thought that Japan ought to evacuate Guadalcanal, all things considered, and redeploy the forces along a strategic Inner Perimeter.

Frequent discussions between the Army High Command and the War Ministry could not easily resolve the disagreement. Some of the staff officers even came to blows. In the end, heated arguments broke out between Tojo (as Minister of War) and Gen Shinichi Tanaka (Chief of the Operations Bureau). The former official won his point forcibly; as a result of the controversy, Gen Tanaka and Col Takushiro Hattori (Chief of the 2d Section, Operations) were both transferred to other posts. (The new Chief of the Operations Bureau was MajGen Kitsuzu Ayabe, while Col Joichiro Sanada took over the Operations Section).

On 31 Dec an IGHQ Conference was held at the Imperial Palace. Attending His Majesty were the Chiefs of the Army and Navy General Staffs; the Deputy Chiefs of Staff; the Chiefs of the Operations Bureaus; the heads of the Operations Sections; the Ministers of Navy and of War; and the chief Aide-de-Camp to the Emperor. For an hour and 40 minutes the conference considered new plans of operation and finally reached the following decisions:

1) In the Solomons area, operations to recapture Guadalcanal will be suspended. Troops on the island will be evacuated between the end of January and the beginning of February. After completion of the withdrawal, Japan should secure the Solomons north of New Georgia and Ysabel (Isabella) islands.

2) In the New Guinea theater, reinforcement will be made of the key points of Lae, Salamaua, Madang and Wewak. Important strategic places on eastern New Guinea, north of the Owen Stanley Range, will be captured in preparation for subsequent operations (against Port Moresby). Troops near Buna will pull back toward the vicinity of Salamaua, as the situation warrants; important strategic points will be secured.

In view of the new concept, Japanese troops were to pull back from the forward positions which they had been striving so mightily to maintain: the Port Moresby-Guadalcanal line. No changes whatsoever were effected in the former plan which had called for the retention of strategic sites in the Solomons (centering upon Rabaul); and in eastern New Guinea (around Lae, Salamaua and Madang). Noteworthy, however, is the fact that the new operational principles entailed an exchange between the individual missions of the field armies; i.e., from the offensive to the defensive (in the Solomons), and *vice versa* (on New Guinea).

Artist: Ishikawa Toraji

Sea battle in South Pacific

War Minister Tojo had good reasons for adhering to his opinion during the arguments with the Army High Command about the problem of requisitioning operational shipping space. He mulled over the Army High Command's contention that "the Supreme Command was independent," and concluded that it was being interpreted in too sweeping a sense. On the other hand, he considered that the High Command's requests laid excessive stress upon operations, in terms of reconciliation with the requirements of national policy. The Minister therefore sought to effect a much closer working relationship between operations and affairs of state. This viewpoint led to his personal assumption of the key post of Chief of the General Staff, for he was convinced that "the feelings of General Tojo are one thing, but those of Minister Tojo are another."

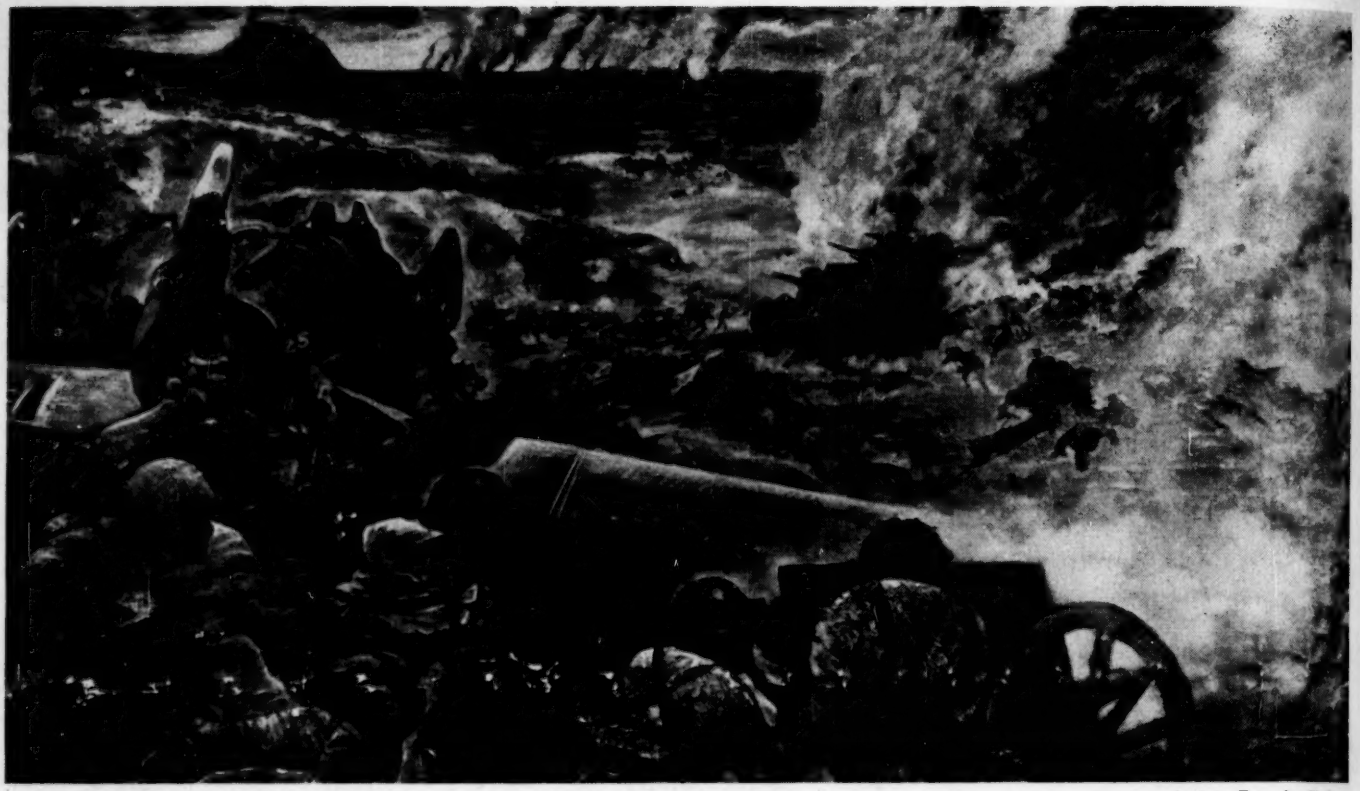
A stage had thus been reached in the synchronization of operations and policy, where the Army High Command's old trump card — "the *requirements* of the High Command" — had lost its power. Thereafter the right of the War Minister to dictate the direction of the war became so greatly enhanced that it exceeded that of the Army High Command.

On 4 Jan 1943, IGHQ transmitted to Gen Imamura, commanding the Eighth Area Army, the gist of the *Army-Navy Central Agreement Concerning South Pacific Operations:*

1) The troops on Guadalcanal will be evacuated between the end of January and the beginning of February.

2) The defenses of the northern Solomons will be quickly strengthened by the Army, while the Navy will do the same for New Georgia and Ysabel (Isabella) islands.

Eighth Area Army Headquarters estimated Japanese military strength on Guadalcanal at about 20,000, as of the end of January. (Actually the front-line forces had been exaggerating their numbers because of the critical food situation, so the correct figures were very difficult to gauge). After gaming the projected evacuation by means of table-top maneuvers, the conclusion was drawn that only about 5,000 troops could be safely pulled out, since the enemy then controlled both the sea and the air. The remainder of the force would either be drowned at sea during the withdrawal; left on the island, where they would be destroyed



Artist: Tereda Takeo

Japanese engage US Marines

by the Americans; or die of starvation before evacuation. The Area Army, however, devoted very great efforts to evacuate *all* of the troop strength, by employing every available means to the very last.

Between the 1st and the 8th of February, destroyers withdrew the troops from Guadalcanal to Bougainville, on 3 different occasions. The evacuation proceeded smoothly, without interference on the part of the Americans. The number of Army and Navy personnel who got away safely totalled 11,083.

For the first time since the war started, the Japanese Army had been forced to fall back upon the defensive.

The fact that many Japanese soldiers starved to death on Guadalcanal proves that operations there were beyond the capabilities of the Army. Most of the responsibility for the failure of the campaign should be borne by IGHQ, at whose command such operations had to be carried out recklessly.

The primary cause of failure derived from IGHQ's inability to reach a clear-cut decision about where to halt the offensive, after the close of the first-phase operations in the southern region. This fault was especially apparent in the Pacific areas and was attributable to the absence, on the part of the Naval High Command, of definitive views concerning the limits of their offensive capabilities. Hence their urgent insistence upon executing operations beyond the national capacity — such as the proposed seizure of Hawaii or Australia.

In the South Pacific, likewise, IGHQ should have earlier decided whether Japan should drive upon Guadalcanal or should be satisfied with advancing to Rabaul. The Army, however, was obliged to commit large forces to the Guadalcanal operations and became involved in the local battles of the Japanese naval landing forces. This occurred before a broad policy had been established, since the Pacific was a zone of Navy defensive responsibility. After having made heavy sacrifices, both the Army and the Navy resolved to defend a strategic Inner Perimeter; only then could they finally settle upon sound bases for action.

A second reason for the failure at Guadalcanal was the inability to maintain transportation lanes. At the beginning, it will be recalled, destroyers had had to handle emergency troops reinforcements, which meant that the quantity of accompanying arms was necessarily restricted. Hence the Ichiki Detachment had failed in its attacks upon the airfield. On the other hand, the Americans first captured the Japanese airdrome; then (using the airstrip as a springboard) gradually secured command of the air and, lastly, of the sea. Thus were they able to cut off the flow of supplies to the Japanese forces on the island.

Under the circumstances, no amount of bravery could avail for the Japanese Army. Each American division could expect to receive several hundred tons of supplies per day; but the Japanese logistical flow amounted only to dozens of kilograms at times. Hunger, disease, and shortages of shells and cartridges, drastically reduced Japanese combat effectiveness.

All in all, the inability to pour in supplies was due to Japanese national weakness. In other words, Japanese Army operations on Guadalcanal were utterly infeasible.

USMC

Next month we will present another excerpt from the Marine Corps Association's forthcoming book: *The Japanese Army in The Pacific War*.—Ed.

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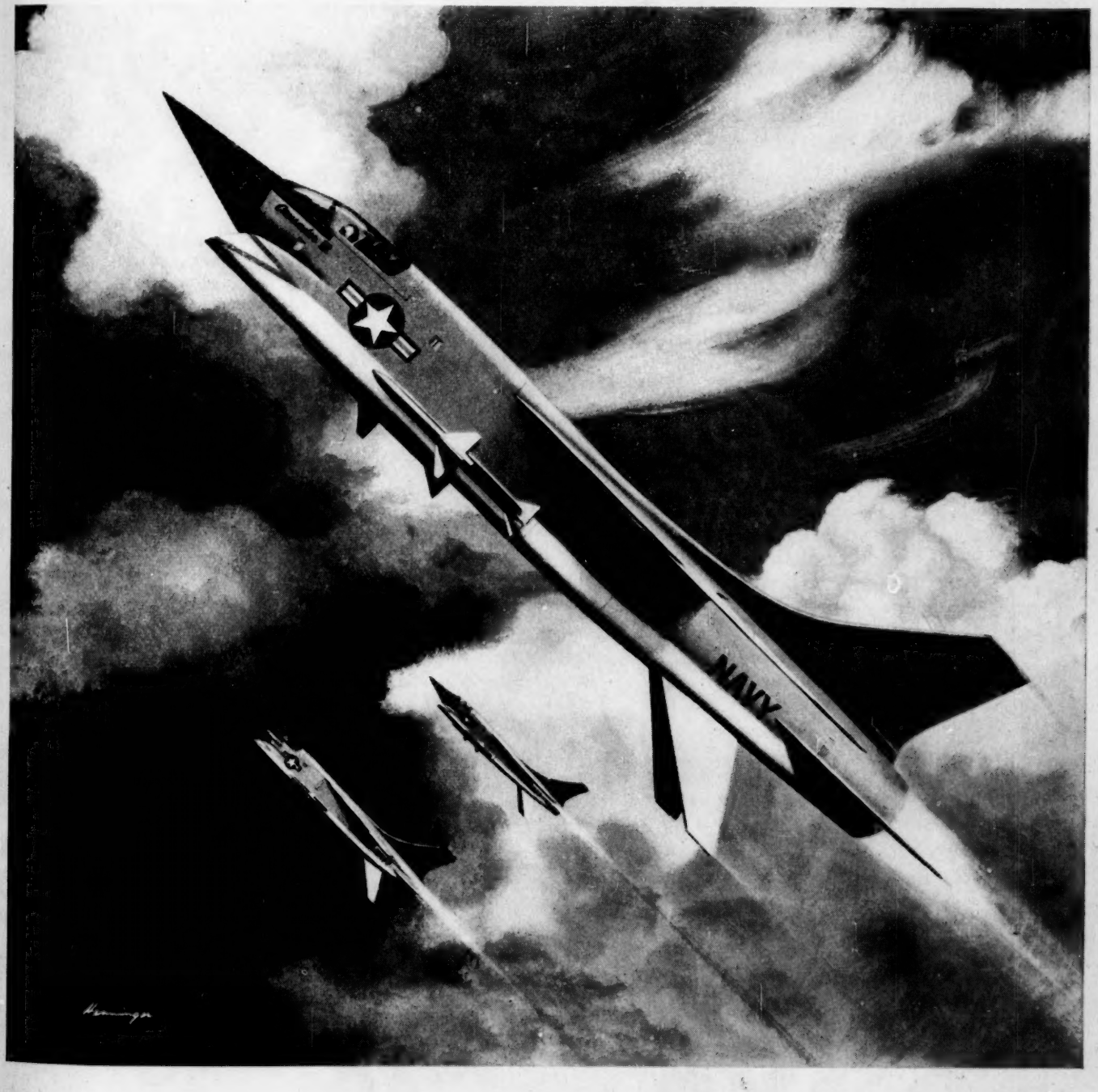
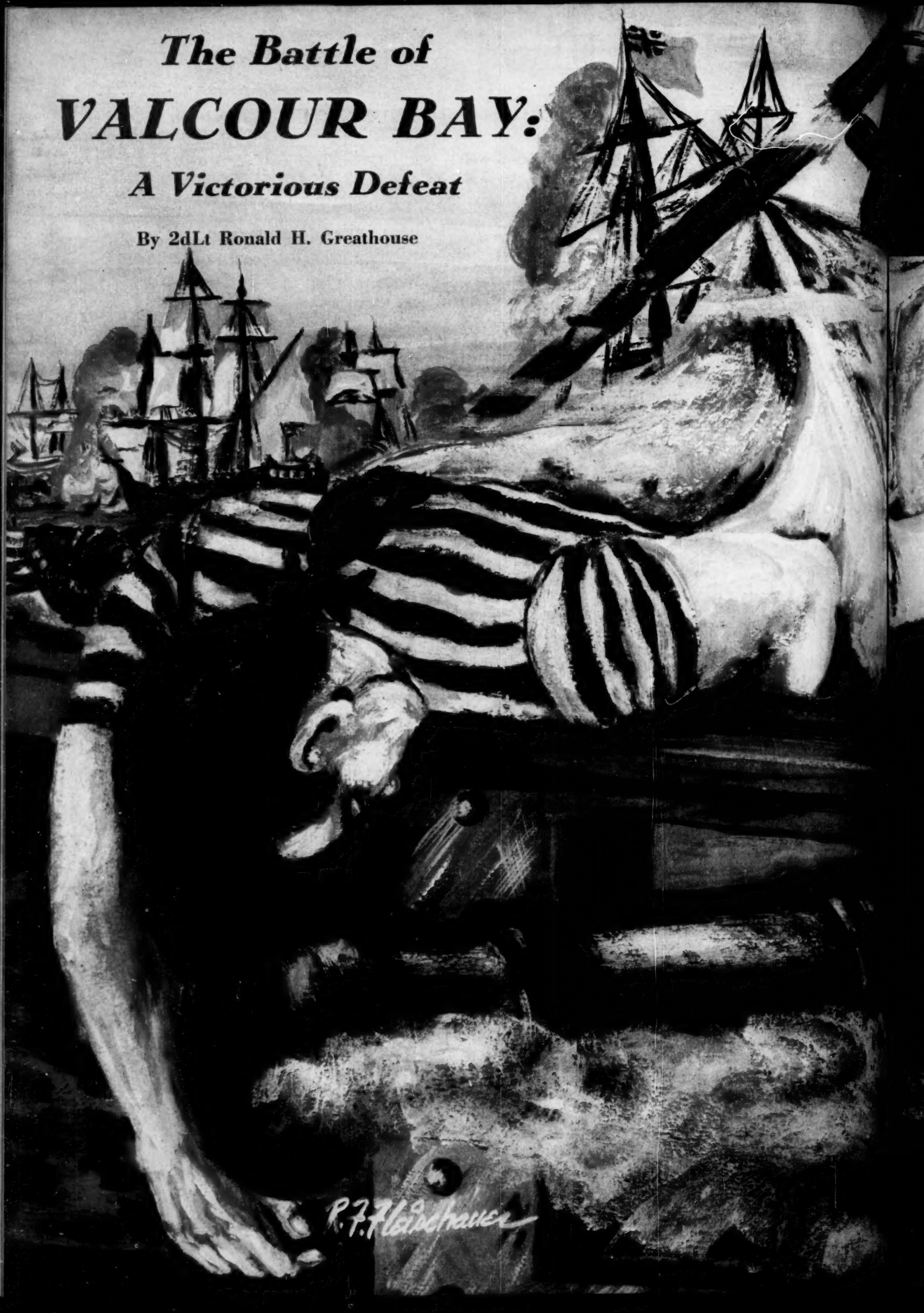


The Battle of VALCOUR BAY: A Victorious Defeat

By 2dLt Ronald H. Greathouse



EARLY IN OCTOBER 1776 A SMALL band of Continental Marines and untrained militiamen fought one of the most important, but unsung, naval battles in American history.

Lacking money, materiel and skilled manpower, but with tireless and contagious energy, they fashioned a motley fleet of 16 ships with which to challenge 70 British vessels at Valcour Bay. Here in 3 bloody days the Americans sacrificed their newly constructed flotilla, but damaged the British fleet under Sir Guy Carleton so badly that the unfolding offensive was abruptly checked. This in turn upset British plans to split New England from the Middle and Southern Colonies, and thus defeat colonial forces in detail — the old military axiom of "divide and conquer."

Since waterways were the principal means of providing logistical support during the Revolutionary period, the importance of Lake Champlain — on which Valcour Island is located—is readily apparent. A natural avenue of approach is afforded by successive stretches of

2dLt Greathouse enlisted in the Marine Corps in 1956 and was commissioned in 1957. He is a graduate of Texas A&M College with a B.A. in Journalism. After completing Basic School, he reported to the Marine Corps Landing Force Development Center, Quantico where he now serves as Writer/Editor, Editorial and Manuals Section. His main purpose in writing this article is to stimulate more professional writing activity among Marine company grade officers.

Lake Champlain, Lake George, and the Richelieu and Hudson rivers. With this important artery severed, any British offensive launched from Canada stood little chance of success.

By 8 August 1776 a succession of losses had driven the Americans out of Canada. The British, pursuing their advantage, assembled a large task force at St. Johns (now St. Jean) and made plans to advance on Crown Point and Fort Ticonderoga. A young Continental Army officer, recently promoted to the rank of BGen for his bravery at Quebec, was placed in command of 200 unseasoned Marines and volunteers at Crown Point. On 26 August — with 1 sloop, 3 schooners and 5 galleys — he set sail for the Isle-aux-Tetes in hopes of surprising the reported British fleet. Reinforced by 7 more vessels, he moved to Isle la Motte, and finally — deciding it more advantageous—to Valcour Island where he was determined to make a stand.

Valcour, situated on the port side of Lake Champlain, lies virtually parallel to the shore. The northern tip is almost connected to the mainland, forming a narrow channel and making it difficult for even small boats to pass. The American commander moored his squadron at the upper end of this channel, and was therefore concealed from the enemy until they entered the lake proper. On 11 October the British rounded the southern point of the island, and sailed into view of the waiting Americans. Manned by over 700 experienced seamen, and bristling with 90 heavy caliber guns, Carleton's armada gathered like birds of prey around the mouth of the channel. Taking advantage of the wind, the young American general lost no time in making the first move. He ordered the schooner *Royal Savage* and 3 galleys to attack. A brief, but deadly, exchange of broadsides forced the *Royal Savage* to beach and the remaining ships to rejoin their original defensive line. At noon the redcoats brought a 24-gun brig and 44 gunboats within range of the Americans, and the battle began in earnest.

The galleys *Congress* and *Washington* caught the brunt of the enemy's main attack. The American commander, in the former, spurred his men on, hour after hour, with a fierce tenacity that almost seemed to equal the vastly superior British guns. Having no experienced gunners, he pointed his own cannon, and supported by Marine riflemen in the rigging, continued the fight for more than 5 hours. When the smoke of battle lifted the *Congress* sported 7 holes in her sails and 12 in her hull; the deck was a shambles.

At dusk the British withdrew their ships. That night Carleton stretched his forces on a line from island to shore to prevent the Americans, whom he now considered completely in his power, from escaping. The American general, however, had no thoughts of yielding. At a hastily called conference he outlined his plan to slip through the enemy's fleet and sail for Crown Point. Fortunately for the Colonials the wind changed, and with the ensuing darkness, allowed them to ease silently through the British line without being detected. The battered little fleet, now only 12 strong, pushed up the lake to Schuyler's Island, where it lay at anchor for half a day making badly needed repairs. On the afternoon of 12 October the Americans again weighed anchor. But this time the wind was against them and prevented further movement.

The following morning, a dense fog hung over the lake, making visibility extremely poor. Gradually it lifted, however, and the dispirited Americans met with an ominous sight. The British fleet was once again upon them. The *Congress*, *Washington*, and 4 smaller craft were so disabled that they had fallen astern during the night. On these badly listing vessels the enemy now focused its attention. The remainder of the American fleet, barely visible in the distance was safely sailing for Crown Point.

At the first onslaught the *Washington* struck her colors, leaving the *Congress* and 4 gondolas to face the British alone. *HMS Marabout* and 2 schooners concentrated 44 guns on the brigadier's flagship. Finally, after failing to overcome their quarry, the British threw 4 more ships into the fight. For 4 hours the Americans continued the unequal combat. The young commander, now faced with the inevitable, made a final contemptuous gesture. Ordering his Marines and remnants of the crew to set up a covering fire on the nearby beach, he remained alone on the blazing *Congress* and guided her straight for her tormentors. Assured that the flames had progressed too far to be extinguished, he dove into the water and swam ashore unscathed. During the night he led his battle worn followers toward Ticonderoga and safety.

Although over two-thirds of the Continentals had been killed or wounded in the engagement, the desperate gamble had paid off— British losses were twice that number. Halting at Crown Point, Carleton decided not to attack Ticonderoga and returned to Canada for the winter. This gave the Americans almost a year to ready for the invasion of 1777 — which ended in the surrender of LtGen John Burgoyne and France's recognition of the American bid for independence.

"In all of us, however commonplace we may be, there lurks an enigma, something which neither we nor others understand. We call it personality, a vague word meaning many things — courage, common sense, quick wit, frankness, determination, self-command and many other qualities, none of which can openly express themselves unless occasion is propitious and circumstances favorable." These words by MajGen J. F. C. Fuller best characterize the young commander responsible for the advantage gained by the Americans at Valcour Bay— BGen Benedict Arnold. USMC

AROUND THE WORLD WITH SIKORSKY HELICOPTERS

TWIN-TURBINE HSS-2—Scheduled for first flight in 1959, the HSS-2 anti-submarine helicopter (Sikorsky S-61) is being developed for the U. S. Navy. It features twin turbine engines, all-weather flight capabilities, and a flying boat hull enabling it to operate from land, water, mud or snow. Shown above in mockup, the new Sikorsky HSS-2 will offer substantial advances in payload, endurance, and cruising speed.

ELECTRONIC TETHER—The Army demonstrates a device developed by Sikorsky for ground control of a flying helicopter using a 50-foot cable. The "tether" aids in hooking up loads to a sling, as shown above, and is also useful for maneuvering near the ground when the pilot's visibility is reduced by darkness, dust or snow.

100th S-56 HELICOPTER—Sikorsky Aircraft has completed the 100th S-56, the free world's largest production helicopter. The aircraft was a Marine Corps HR2S-1. The S-56 is also built as a U. S. Army troop and cargo carrier designated the H-37A. An S-56 holds the world speed record for helicopters —162.7 mph, set in 1956.

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RESIDUAL RADIOACTIVITY

and the Grand Strategy of the United States

By Dr. Edgar A. Parsons

Charts and Photos Supplied by Author.

THE GROWING FUND OF KNOWLedge concerning residual radioactivity, or fallout, makes imperative a re-examination of our military policy of massive retaliation. Viewed in the light of present knowledge, the conclusion is inescapable that the concept of massive retaliation must be altered drastically.

Fallout affects the lives and fortunes of Americans in this and succeeding generations, as well as the fate of our Allies and all the peoples of the earth. A recognition of the hazards and implications of the effects of fallout will govern our plans for the employment of intermediate range ballistic missiles (IRBM) and intercontinental ballistic missiles (ICBM); the type of employment necessarily dictates the numbers of these missiles to be produced. An analysis of our present course will not only save billions of dollars, but save the US and perhaps much of the world from catastrophe or oblivion. What we do with certain newly-released information is our decision, and in a democracy such fateful decisions are appropriately made by an informed and enlightened citizenry.

The purpose of this analysis is to relate the significance of residual radioactivity to the present massive retaliation strategy of the US. The method is first to establish the magnitude of the problem by citing the estimated casualties from our present war plans; then to describe fallout in general terms, including its distribution locally and world wide. Following this is a review of certain calculations giving the world's maximum permissible concentration of contaminations and yields from nuclear and thermonuclear weapons, and a limited evaluation of certain operational procedures which maximize the fallout hazard. Recommendations and suggestions are also given.

There is a limitation to the total number and yield of thermonuclear bombs that can be absorbed by the earth and the peoples on the earth. To exceed this number would jeopardize the continuation of life on earth as we know it. To stay beneath this maximum number does not mean an absence of harmful effects. By directing attention to wartime concepts of employment of thermonuclear weapons, it is intended to avoid the kind of political controversy that sparked the latter days of the 1956 presidential campaign.

While there may have been room between the 2 political parties for controversy regarding the radiation hazards of peacetime testing, there was implicit acknowledgment of the mutual extermination levels resulting from wartime exchanges of thermonuclear weapons.

The world was shocked in June of 1956 by the officially released testimony that current war plans of the US contemplated "several hundred million deaths" from fallout. These casualties would result from massive retaliation on the USSR, but would not be confined to the territory of the Soviet Bloc. According to Lt Gen Gavin, who described these war plans in Congressional testimony, the nationality of millions of these casualties would be determined by the winds at the time of attack. Casualties might occur in India, Japan and the Philippines; on neutral countries and hostile countries. Lt Gen Gavin went on to state, "If the wind blew the other way they (the fallout casualties) would extend well back up into Western Europe."

The world-wide ignorance of this description of US war plans is not difficult to understand. A report to the Congress on 27 July 1956, summarized the present status of public understanding of fallout as follows:

"In 1948 the Hopley report believed it unlikely that atomic bombs would be exploded on the ground

and thus create a major fallout problem for civil defense. . . .

"Official announcement of the fallout hazard was not made by the Atomic Energy Commission until February 1955.

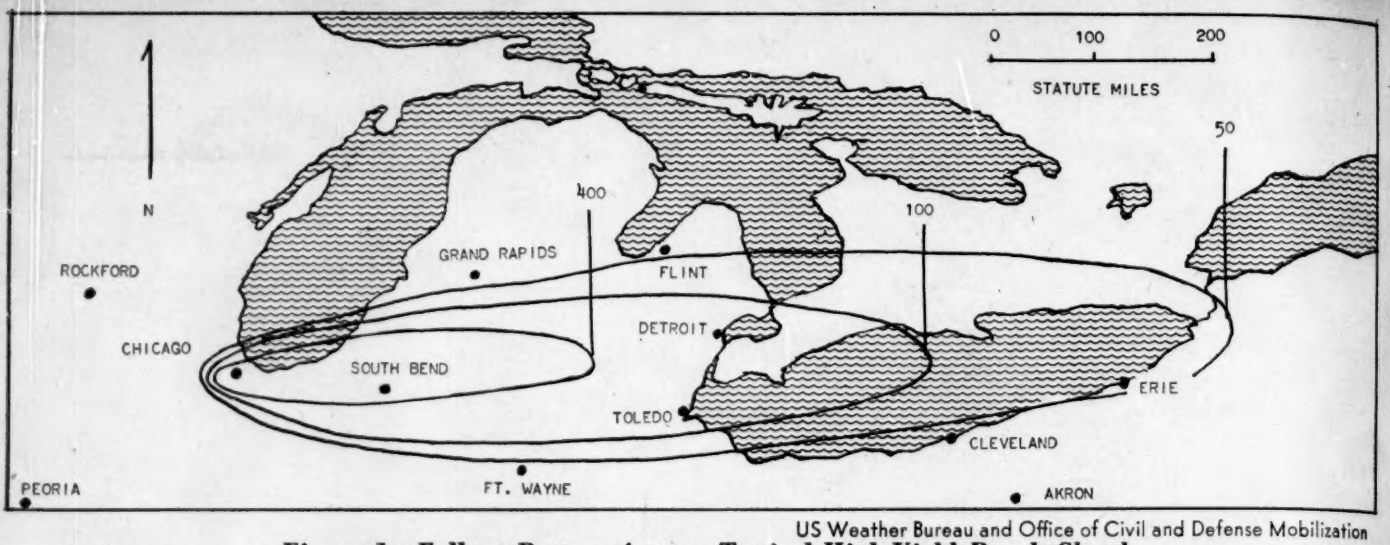
"The information released on that date by the AEC might easily convey to the lay reader a misleading impression of the extent and duration of the radioactivity hazard. While explaining that fallout is due to surface nuclear explosions which draw up large amounts of materials into the bomb cloud, the first paragraph of the statement also observes that the 'main radioactivity' is dissipated within a few hours and concludes with a sentence that air explosions do not produce any serious radiological hazard.

"The AEC release referred to radioactivity within the first 36-hour period. The persistent or lingering radioactivity received practically no attention. Dr. Libby acknowledged that there was no reason to confine the discussion in that manner and states it 'was an inadvertent omission.'

"The subcommittee sees no excuse for inadvertencies or casual treatment of atomic energy when life and death matters such as this are involved. The AEC displays a kind of easy optimism about nuclear explosion effects. The AEC spokesmen dwell upon the effects of 'nominal' bombs rather than those of the high-yield megaton weapons. Data presented to the subcommittee on the intensity of local radiation hazards are diluted by resort to global averages and other minimizing assumptions. The genetic effects of radioactivity are passed by with the comment that 'there is a wide range of admissible opinion on this subject.' Important information on atomic energy is often released in driblets, through speeches of AEC Commissioners, and couched in highly technical and hypothetical terms rather than in authoritative, concise, plain-spoken facts."

In recognition of the extreme dangers of fallout, the current planning assumptions of the Federal Civil Defense Administration assume "that surface bursts *will* generally be employed since radioactive fallout from such bursts can increase casualties and interfere with military or civilian activity for days or weeks."

LtGen Gavin's testimony on current war plans was reviewed twice by both the Security Review Branch of the Department of Defense and also by VAdm Arthur C. Davis, who was especially recalled to active duty



US Weather Bureau and Office of Civil and Defense Mobilization

Figure 1: Fallout Pattern from a Typical High-Yield Bomb Cloud

to serve as censor at the Air Power hearings. The passages on fallout deaths were not questioned by these censors. Department of Defense officials were, nevertheless, described as being "shocked" at the release and "made vain efforts to prevent publication of the testimony."

Incidents such as these tend to reinforce the conclusion that if the characteristics of fallout are not fully understood, they may not be given adequate consideration in the design of an optimum military strategy.

Since fallout may produce most of the casualties and continue to affect the world environment for years, a review of its more significant characteristics is appropriate. Prompt radiation is relatively insignificant as compared with either blast and thermal damage, or fallout, and the effects of prompt radiation are herein considered to be included with blast and thermal damage.

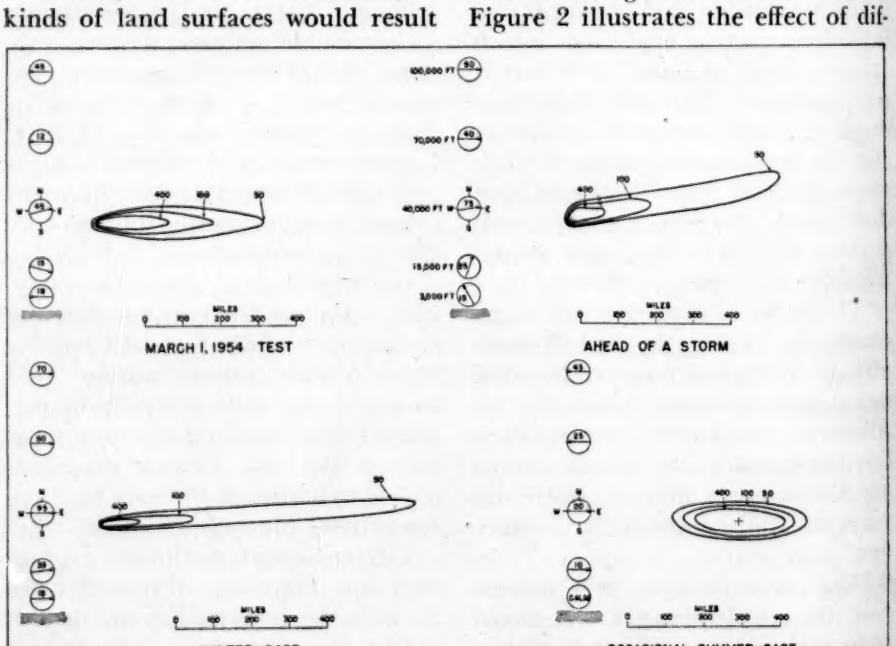
Fallout covers areas far greater than the blast and thermal area of high-yield weapons. For example, using the well-known cube root scaling law, the area of complete destruction from a 10 MT weapon is about 47 square miles; light damage will occur as far as 16 miles from ground zero, or a total blast area of almost 800 square miles.

By contrast, the area encompassed within an idealized fallout pattern is approximately 25,000 square miles.

The magnitude of the fallout area is illustrated in Figure 1 by superimposing, on a Chicago ground zero, the fallout pattern from the averaged or "idealized" winds and the yield of the 1 March 1954 detonation at the Pacific Proving Ground. Within this 25,000 square mile area, stretching from Chicago to Buffalo, some 12,500 square miles would be contaminated with an effective biological dose in excess of 100r; and inside that 12,500 square miles, approximately 5,000 square miles (the area of the State of Connecticut) would be contaminated with an effective biological dose in excess of 400r. Inside the 400r area, a significant percentage of persons would be expected to die; at the 100r line, a few percent would become ill, and the 50r line indicates the general extent of the area within which substantial emergency protection measures would be required.

Different yields of weapons, wind structures, altitude of detonation, or kinds of land surfaces would result in different patterns; also this is the amount of fallout for a *single* high-yield weapon. Further, the actual number of casualties would depend on the amount of special protective shelter available, the precautions taken by the persons within the contaminated areas, the effective biological dose as contrasted with the total dose, etc. Space limitations forbid detailed analysis here of the effects of radiation, but the literature on this subject is becoming plentiful.

In considering the pattern of fallout on the surface of the earth, it is convenient to use an idealized curve which simplifies the outline of areas. Actual boundaries are described by much more complex curves which result from variations in wind vectors and the configuration of the surface. Figure 2 illustrates the effect of dif-



US Weather Bureau and Office of Civil and Defense Mobilization

Figure 2: How Winds and Seasons Affect Fallout Pattern

ferent winds on the idealized fallout pattern. In the lower left of Figure 2 is shown the fallout pattern one might expect in the winter with wind speeds of over 100 miles per hour.

The upper right hand portion of Figure 2 shows the effects of very high winds in the upper altitudes, such as might precede a storm.

The lower right hand illustration in Figure 2 shows a pattern found in the southern US with westerly winds in the lower levels, and easterly winds in the higher altitudes.

The upper half of Figure 3 compares the average winter winds with the average summer winds. The winter winds are much stronger and tend to blow in a more definite west to east direction; whereas the summer winds, especially in the southern US, have no single precise wind direction. Also shown in Figure 3 are hypothetical fallout patterns for an individual winter day and for an individual summer day. In the case of the pattern in the Los Angeles area, the winter fallout would have been deposited in a northeasterly direction; in the summer, the Los Angeles fallout would have been to the southeast. Similarly, the winter fallout for the New York City area would have been deposited northeasterly, and due east in the summer.

Figure 4 (next page) is a map of the US showing the fallout patterns assumed for Operation Alert 1956. The lowest radiation intensity shown in Figure 4 is 100 roentgens. If the 50r line utilized in Figures 1-3 were shown, the areas covered would have been much greater. It is interesting to note the extremely large areas covered by an attack with a total yield of only 70 megatons, two-thirds of which were air bursts and thus did not contribute to the local residual radioactivity.

Using the normal decay rate for fission products, it would take many months for the fallout to decay to the level of the estimated permissible dose for personnel who are exposed to radiations every working day. This level is .3r per week. In the case of the 100r lines shown in Figure 1, over a year would be required for the fallout to decay to the level of .3r per week.

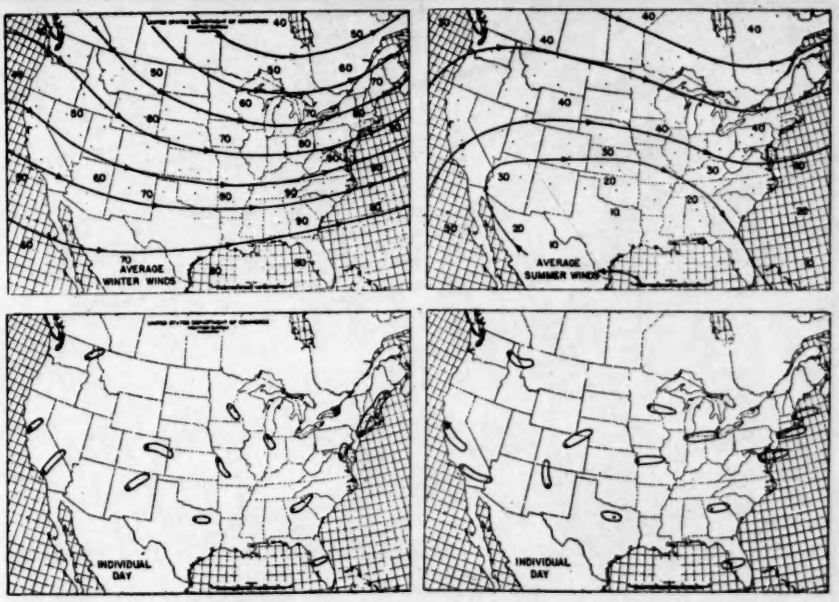


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Figure 3: Variability of Fallout Areas and Seasonal Winds

The difference between the tropospheric fallout and the stratospheric fallout is illustrated by Figure 5. The heavy black lines show the latitudinal distribution of world wide fallout for the spring of 1954 and for February 1955. The horizontal portion of these lines show the accumulated intensity of the stratospheric fallout; the bulge in the 2 lines extending from about 10 to 50 degrees north latitude measures the higher intensities of the tropospheric fallout.

Experience indicates that weathering would probably accelerate the decay. Nevertheless, the persistency of fallout has far-reaching consequences.

The fallout patterns shown in Figures 1-4 are not intended to suggest that all of the fallout is contained within the various iso-intensity lines. The patterns contain what Atomic Energy Commissioner Dr. Willard F. Libby has characterized as the local fallout, despite the fact that this local fallout might be deposited several hundred miles from ground zero. The tropospheric fallout con-

Atomic Energy Commission

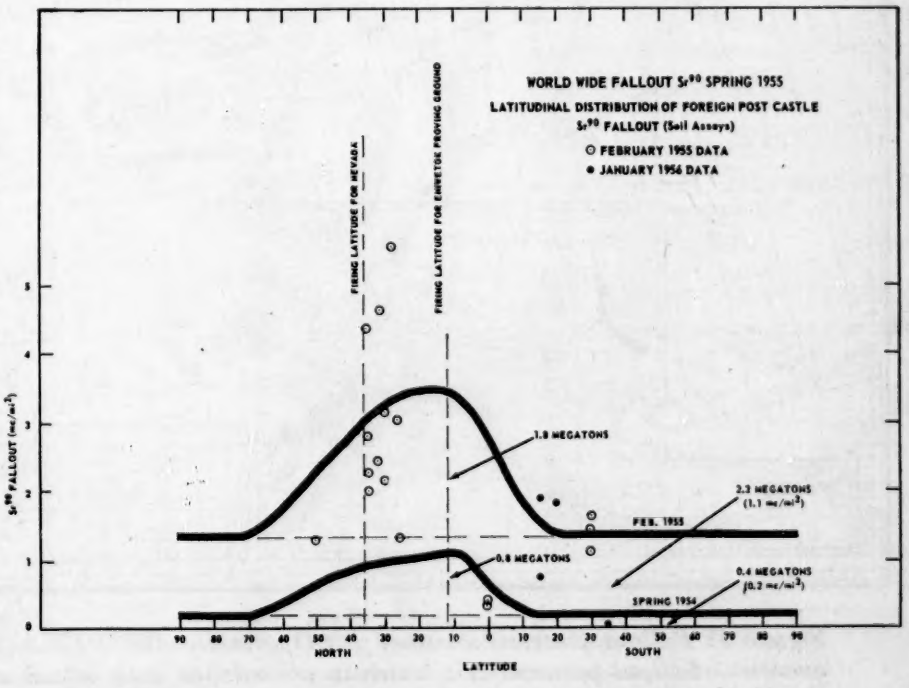

Figure 5: World Wide Fallout Sr90 — Spring 1955

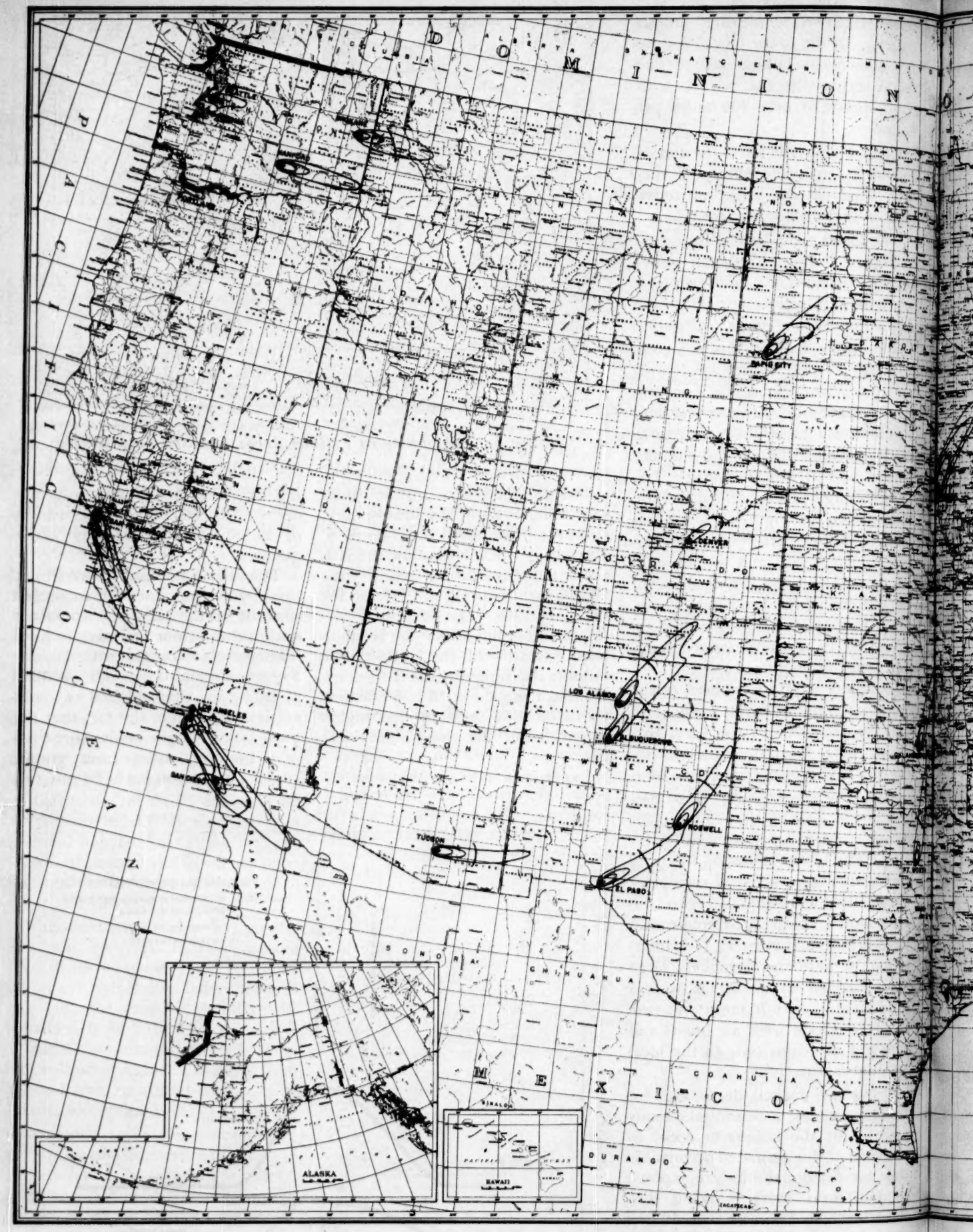

Figure 4: Fallout patterns assumed for Operation Alert, 1956, the nation-wide Civil Defense exercise. Fallout patterns are drawn in accordance with actual winds. Assumed ground zeros were: 63 centers of population and industry; 9 SAC bases; 4 Atomic Energy installations. 124

SURFACE DETONATIONS
RADIOACTIVE FALLOUT FOR
OPERATION ALERT 1956
THE OUTER BLACK LINE INDICATES AN INTEGRATED DOSE OF 100 r FOR THE FIRST 48 HOURS AFTER DETONATION
INNER BLACK LINES ARE FOR INTEGRATED DOSES OF 400, 1900, AND 6400 r RESPECTIVELY
FALLOUT AT 2 HOURS AFTER DETONATIONS OCCUR MAINLY IN THE VICINITY OF THE HEAVY BLACK LINE
FALLOUT AT 1 HOUR OCCURS ALONG A LINE ONE-THIRD THE DISTANCE FROM GZ TO THE HEAVY BLACK LINE, ETC
BLACK CROSSES ARE GROUND ZERO POINTS FOR ALL SURFACE DETONATIONS
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
UNITED STATES
GULF OF MEXICO
ATLANTIC OCEAN
CANAL ZONE
PUERTO RICO

US Weather Bureau and Office of Civil and Defense Mobilization

bombs were assumed; ranging from 20 KT to 5 MT, with a total yield of about 78 MT. On 24 targets, 2 to 5 bombs were assumed. More than one out of ten persons were assumed to have been killed, and vast areas made untenable by fallout.

sists of the contaminated portions in the troposphere which are distributed throughout the world in the same general latitude as ground zero. The "stratospheric world wide fallout" is caused only by detonations in the megaton range. While the tropospheric fallout would descend to earth in one or two months, the stratospheric world wide fallout requires an average time of about 10 years to reach the earth's surface.

Figures 6 and 7 compare the tropospheric fallout from the "Mike" shot on 1 November 1952 and the "Bravo" shot on 1 March 1954. These detonations were similar in that both are described as being in the megaton range, both were detonated at or near the earth's surface on a coral island, and both had atomic clouds that penetrated into the stratosphere. The main difference was the season of the year. It is interesting to note in Figure 6 that fallout from both detonations reached the western US and Africa in about the same number of days, but travelling in opposite directions from ground zero. The radioactive fallout in the "Mike" shot was very much heavier than in the "Bravo" shot as shown by the intensities in Figure 7.

The four Mercator Projections of Figures 6 and 7 illustrate far better than any number of words the way that fallout becomes distributed throughout the world and is both a local and a world wide hazard.

Strontium 90, an isotope with a half life of 28 years, creates the most serious long term fallout hazard; in addition to its very long half life, Sr90 is a close chemical relative to calcium and a "bone seeker." These properties facilitate the transfer of this radioactive element from the soil to various plants; from plants to animals, and from animals to humans. The lower the calcium content of the soil, the greater the probability of Sr90 transfer to humans.

The significance of these factors: a) the 28 year half life of Sr90, b) Sr90 world wide distribution from test shots, and c) the average time of 10 years for descent from the stratosphere to the earth's surface, is shown in Figure 8. This figure was prepared and released in April 1956 by the Atomic Energy Commission as a part of a press release of another of the very informative speeches of Commissioner Libby.

The "Castle" test series occurred in the spring of 1954, and Figure 8 portrays the rate at which the "Castle" Sr90 would very slowly descend to earth. Its descent, however, is faster than its decay, so the peak Sr90 intensity anticipated as a result of

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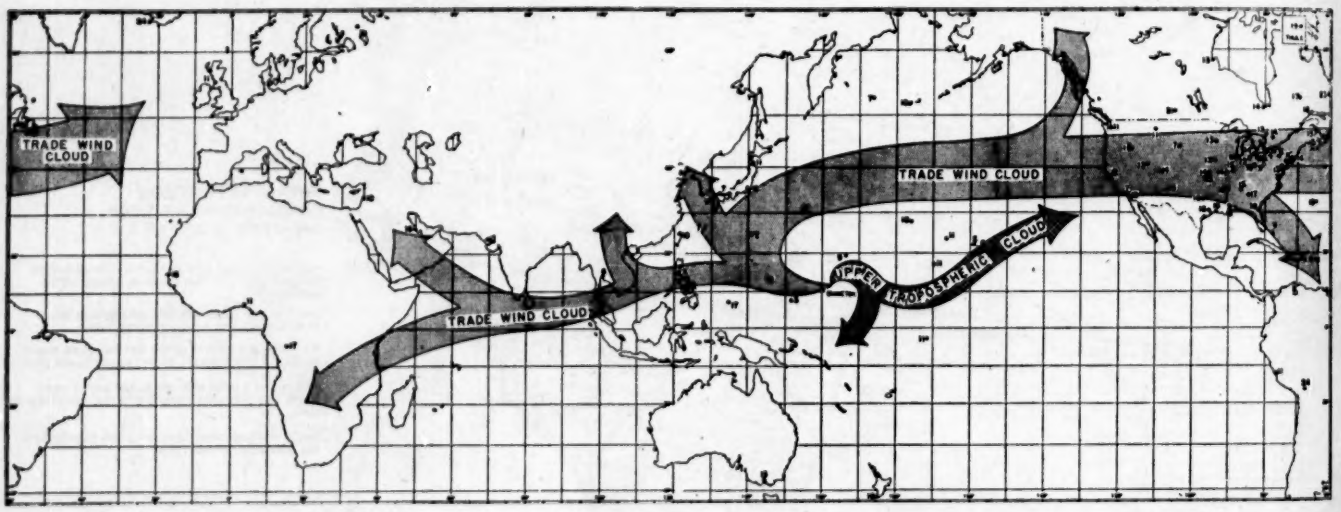

Figure 6a

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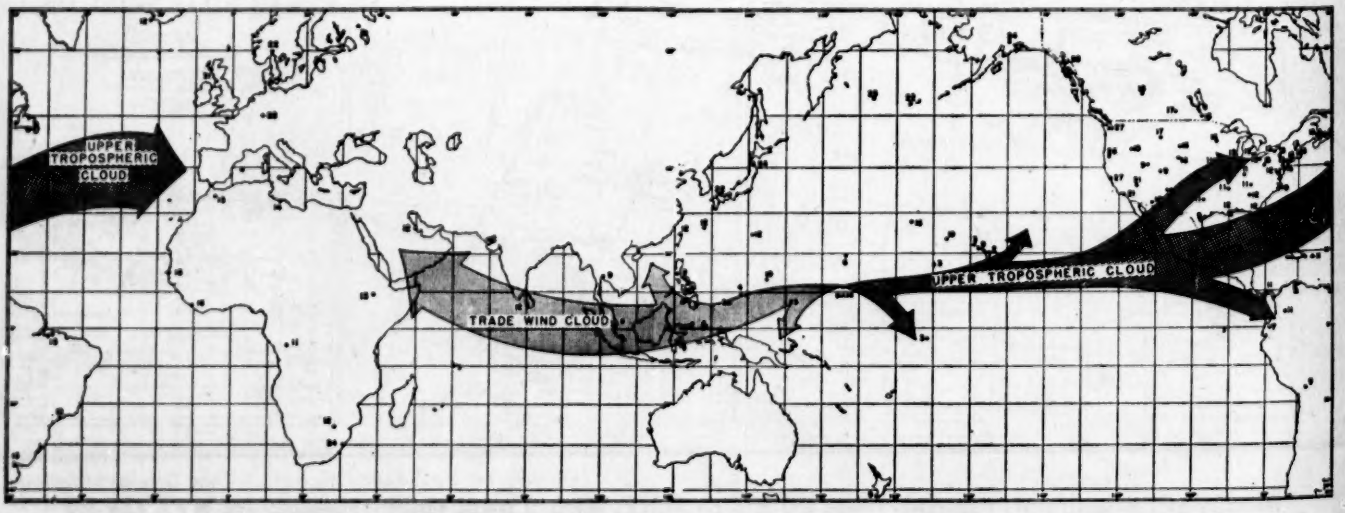

Figure 6b Comparison of Early History of "MIKE" Fallout (6a) and "BRAVO" Fallout (6b). The figures indicate the number of days between detonation and the first ground observation of fission products.

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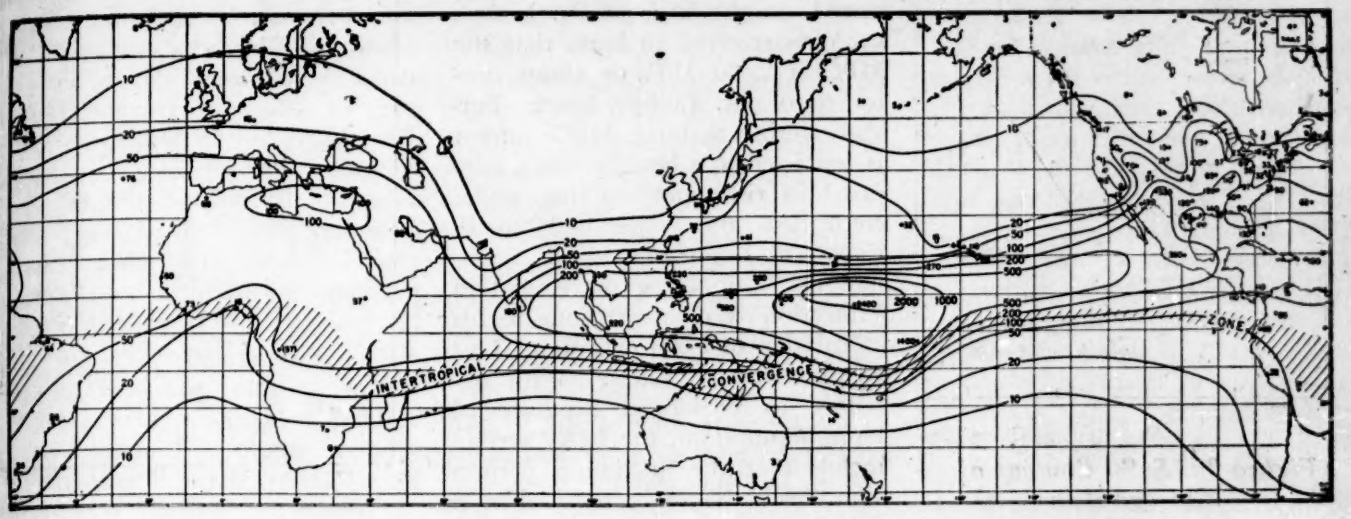

Figure 7a

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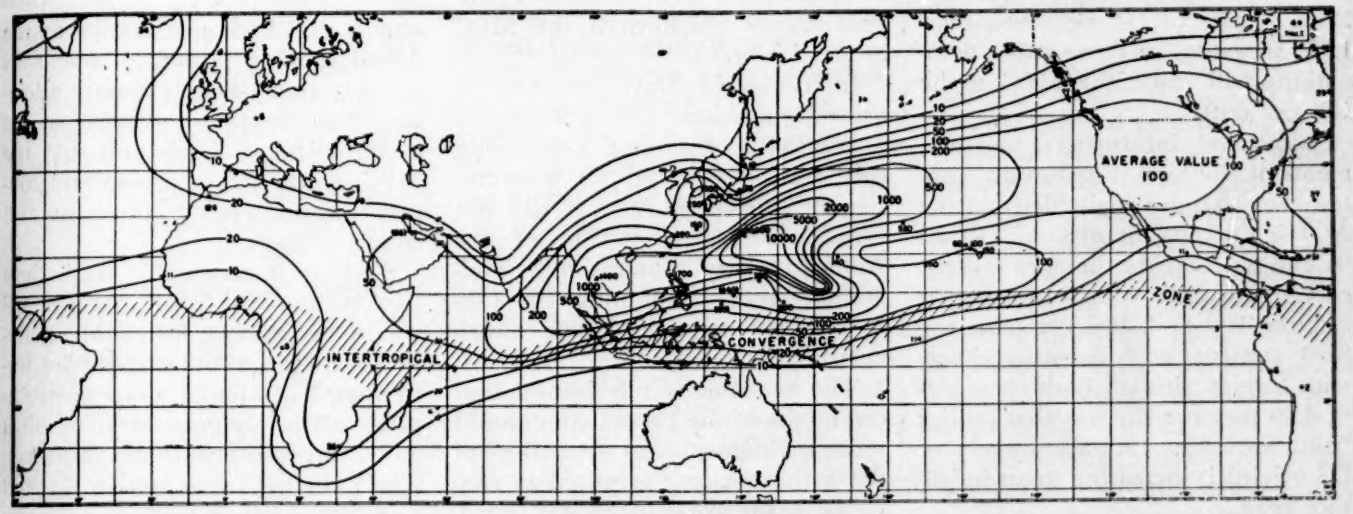


Figure 7b ***Comparison of "MIKE" and "BRAVO" Fallout, 2 to 35 days after detonation. (in millicuries per 100 square miles)***

Atomic Energy Commission

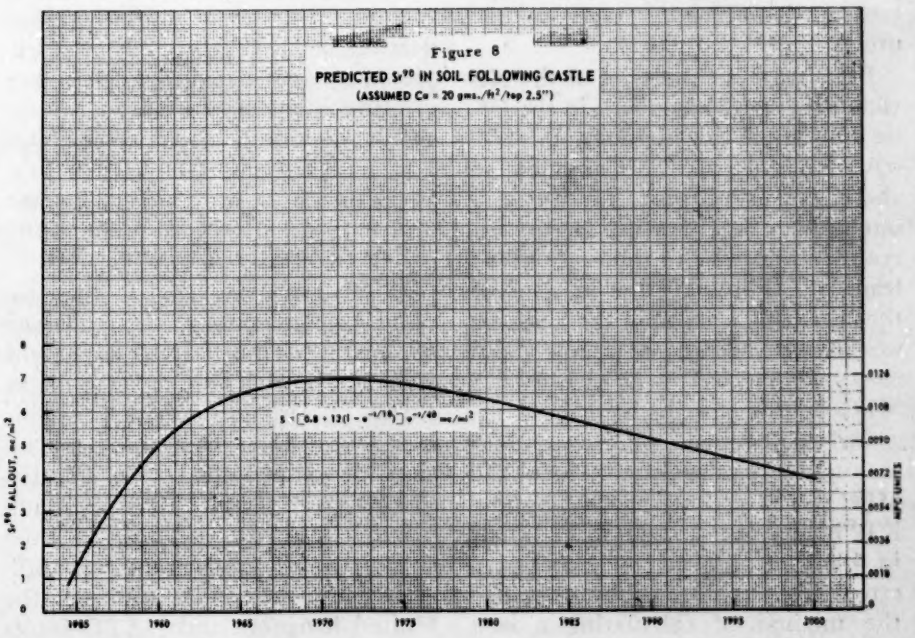
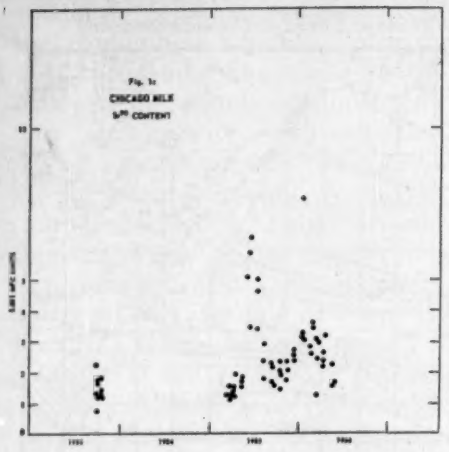


Figure 8: Predicted Sr90 in soil, following "CASTLE"

the "Castle" test series in 1954 would not be obtained until 1970.

The build-up of Sr90 is shown in Figure 8 in two forms: 1) the absolute quantity and 2) in terms of "MPC Units." MPC is an abbreviation for "maximum permissible concentration," specifically, "one microcurie of radio strontium for the standard man," the MPC recommended by the National Committee on Radiation Protection for Atomic Energy Commission workers.

By 1970, the MPC calculated by the Atomic Energy Commission will reach .0125 MPC or 1¼ per cent MPC. After 1970, the rate of descent will be substantially lower than the rate of decay. This Atomic Energy Commission calculation was based on 24 megatons of fission products in the stratosphere.



Atomic Energy Commission

Figure 9a: Sr90 Content of Chicago Milk

It naturally follows that if 24 megatons of fission products cause the MPC to rise to 1¼ per cent, then 1,600 megatons of comparable detonations will cause the MPC to be 100 per cent.

Additional informative measurements of the Sr90 distribution from test shots are also available from the Atomic Energy Commission. Figures 9a and 9b compare the Sr90 content of Chicago milk with foreign milk; Figures 10a and 10b compare the Sr90 content of Wisconsin cheese with foreign cheese. Both these sets of data measure the way that fallout from test shots (not exclusively of US origin) is increasing to an indefinite peak.

For soil of low calcium content, such as those in certain parts of Wales, the Atomic Energy Commission has predicted activity 40 times greater than that average in Figure 8.

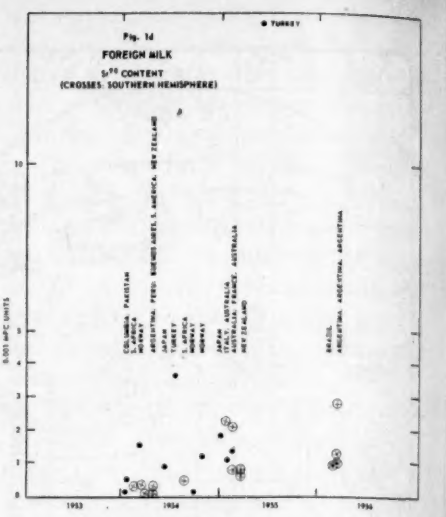
Because of the presence of the Nevada Proving Ground within the US, we now have the highest total fallout in the world. This amounts to about .040 MPC units for the soil; but various ameliorating factors operating from now to the early 1970's lead Dr. Libby to "the conclusion that the body burden in the US from weapons *fired to date* would be about .004 units or possibly as high as .010 MPC units seems justified."

Only 6 years ago, before the thermonuclear breakthrough, the world MPC was placed at 755,000 nominal KT bombs, or 15,000 MT. Early in 1957, in a speech at Northwestern University, Dr. Libby described the method of calculating a new and revised MPC of 11,000 megatons. Dr. Ralph E. Lapp has estimated, on the basis of Dr. Libby's speeches referred to here, that the MPC is 2,600 MT, or about one-fourth of Dr. Libby's figure. Further, noting that the MPC concept is restricted to a healthy adult, educated in risks and working under controlled and supervised conditions, Dr. Lapp applied the International Committee on Radiation Protection recommendations to his calculation of 2,600 megatons. This recommendation states: "With reference to prolonged exposure of large populations, the ICRP recommends that the maximum permissible levels should be reduced by a factor of 10 below those accepted for occupational workers." Dr. Lapp's resultant is an MPC of 260 MT, approximately one-fortieth the MPC of Dr. Libby.

It is also obvious that there is some disagreement within the Atomic Energy Commission concerning this general concept, for Commissioner Thomas E. Murray did not subscribe to that section of the Atomic Energy Commission's semi-annual report containing Dr. Libby's 11,000 megaton MPC miscalculation.

The available public information on the size of the US stockpile would seem to indicate that regardless of the actual amount required to contaminate the world to the MPC level, we either have that amount now, or will have in the foreseeable future. LtGen Gavin's statement, for example, "current planning estimates run on the order of several million deaths," is one measure of our stockpile size and capability. Another measure is the size of SAC, as given to the Senate Committee on Air Power. SAC was described as having 1,400 B-47's and 300 B-36's, and replacing the B-36's with some 500 to 850 B-52's.

If this force managed to fly a total of 1,500 missions, with an average of 10 MT per mission, the total yield would be 15,000 MT, an amount in excess of Dr. Libby's MPC. This calculation does not include any fissionable materials that might be delivered by Tactical Air Command, pilotless aircraft and missiles, the Army, or the tremendous capabilities of the Navy. In addition, the United Kingdom and NATO forces would be expected to add their



Atomic Energy Commission

Figure 9b: Sr90 Content of Foreign Milk

atomic and hydrogen bombs to the Allied striking power. If one adds to these sums an appropriate allowance for the thermonuclear stocks of the USSR, it is obvious that the MPC is a matter of immediate concern for the world's strategists and chiefs of state.

Also, it is reasonable to believe that neither the USSR nor the US would be making fissionable material available to other countries until they had atomic weapons stockpiles sufficiently great to accomplish any conceivable military objective. The existence of respective US and USSR programs is further indicative of nuclear plenty. The US "Atoms for Peace" program involves the allocation of 40,200 kilograms of fissionable material, valued at about $1,000,000,000. For orientation purposes, the nominal atomic bomb of 20,000 tons of TNT equivalent involves the fission of *one* kilogram of uranium or plutonium.

This is not intended to imply that the "Atoms for Peace" program consists of materials directly usable for bombs; elaborate treaty provisions attempt to minimize such hazard. So far as is known, the USSR has made no announcement concerning the total fissionable material allocated to its 11-nation program and the USSR-sponsored Joint Institute for Nuclear Research. Whatever the allocations, they could not conceivably have been made at the detriment of the military effort of either country.

Fallout from massive retaliation may jeopardize our world supremacy by affecting food supply in 2 ways.

One of these is through direct contamination of the soil by Strontium 90. The other way is through lowering the earth's temperature, which would make it impossible to grow some crops and decrease the yields of other crop lands. This somewhat unusual and unexpected effect has been described by Dr. von Neumann, Commissioner of the Atomic Energy Commission, to the Joint Committee on Atomic Energy.

"Dr. von Neumann: A large volcano, Krakatoa, erupted in the 19th century. Krakatoa reduced the solar heating of the earth by something between 5 and 10 per cent over 3 years. It has been calculated that one eruption like this every year would be enough to bring back the conditions of the last ice age. We have reason to believe that the amount of material thrown up by Krakatoa was about 100 times that of the largest nuclear explosion so far. . . .

"Representative Cole: How many Krakatoas did you say would bring about the ice age?

"Dr. von Neumann: Usually it is believed about one a year.

"Representative Cole: One a year?

"Dr. von Neumann: Yes, it would take a little while.

"Representative Cole: If the time ever should come that there would be nuclear or thermonuclear explosions to the point of a hundred a year, then in time we could anticipate the ice age?

"Dr. von Neumann: We would notice real climatic changes after 10 or 20 years of that. But, of course, there are other effects you would notice a great deal, long before that time."

As these observations indicate, a great many bombs would be required to bring on another ice age. Is the number greater or less than that which SAC and the Allied Forces will try to deliver? A lowering of the average temperature of 10 to 15 degrees for even a few years might well destroy our way of life. At the very least it would cause chaos of the magnitude of the Biblical floods.

Massive retaliation as contemplated today involves other exotic effects. Among these are the genetic imbalances caused by radiation; the fact that the more simple forms of life (such as insects) are more resistant to radiation than the more advanced forms (such as livestock and man), and the general problem of continuity of food supply. Our ignorance or recklessness will certainly not shield us from such effects.

Fragmentary information from the Atomic Energy Commission suggests that the "Redwing" and other series of tests held at the Eniwetok Proving Ground, provided data on ways to reduce fallout. The first statement on this subject was made by Atomic Energy Commissioner Lewis Strauss in his press release of 19 July 1956:

> "It has been confirmed that there are many factors, including operational ones, which do make it possible to localize to an extent not heretofore appreciated the fallout effects of nuclear explosions."

Admiral Strauss' release was expanded upon by Dr. Libby:

> "Particular attention was paid to the fallout problem in this operation and a major effort was made to produce a megaton range weapon with an inherently smaller amount of fallout for a given energy release. This effort was successful."

There is some hope that massive retaliation, if employed by the US at some future time, would not necessarily mean exceeding the world's MPC. What this "clean" bomb development means with respect to Dr. von Neumann's concern over lowering the world's temperature is certainly far from clear; and it is not known whether or not the discoveries of the Atomic Energy Commission with regard to minimizing fallout are being communicated to the USSR, or even to our Allies in the United Kingdom. If the objective of this AEC activity is to minimize military effects, it is always possible to return to the conventional types of ordnance employed in Korea and WWII.

The Air Force is somewhat contemptuous of the fallout with which it would have to contend defensively, as well becomes a young organization oriented to the offense, but its own tactics would appear to maximize the fallout problem for an enemy. In testimony before the Senate Committee on Air Power, an attack at 1,000 feet, using 10 megaton weapons and 2 bombs per location, was described as "a very efficient attack."

Attacks of this nature tend to aggravate the fallout problem, not only in the enemy country, but also in one's own country, and particularly if both countries are in the same general latitude.

Atomic Energy Commission

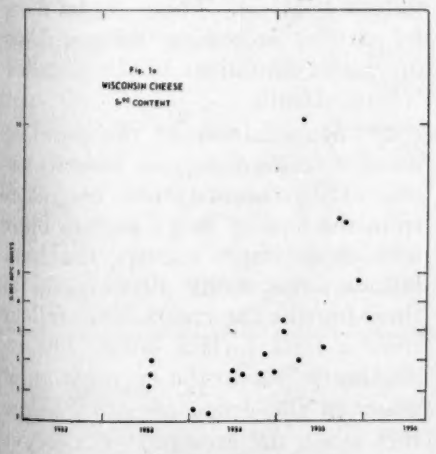


Figure 10a: Sr90 Content of Wisconsin Cheese

Atomic Energy Commission

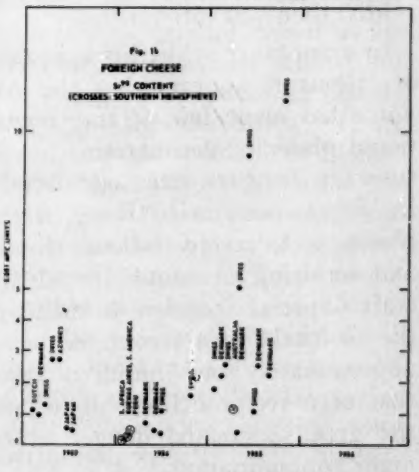


Figure 10b: Sr90 Content of Foreign Cheese

Figure 11 illustrates the Low Altitude Bombing System known as LABS. This system enables an aircraft to reduce the chance of radar detection by approaching the target at low altitude. At altitudes of several hundred feet a special problem is presented—how to escape the blast effects of the atomic or other type bomb. The LABS is designed to maximize escape time by lobbing the bomb as illustrated. The lower the altitude of bomb detonation, the greater the escape time, and the greater the local fallout problem. Such a device would also be useful to Soviet aircraft. If similar bombing systems are employed by the USSR, the USAF fallout hazard will be exceedingly costly to its operational effectiveness.

Prudent planning would suggest that a military policy of massive retaliation would make provision against the fallout caused by the enemy's first blow. Recognition of the fallout danger would be expected to be acute in the light of our war plans. Surprisingly, this is not the evaluation of fallout as expressed by Gen LeMay to the Senate Committee on Air Power:

> "Gen LeMay: Now fallout is not the horrible thing that some people might lead us to believe in that if you can just get under a couple or three feet of ground, just in a basement or something like that and stay there for a while until this hot air has cooled off a little bit, and the air cools off rapidly, then you can get out."

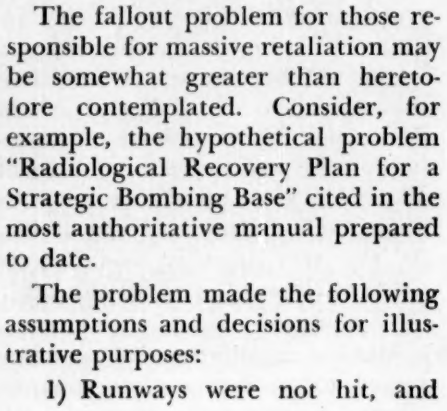
In accordance with this appraisal of fallout it appears that the Air Force has made few, if any, operational plans for decontamination of runways, hangars, exposed aircraft, in flight contaminations, flight planning to avoid fallout clouds, and servicing of contaminated aircraft. Special mention is made of the air-intake of a jet engine being approximately one hundred times that of a reciprocating engine and the greatly-increased danger of in-flight contamination.

Similarly, the Army shows a predilection in their publicized maneuvers for dealing with nominal atomic bombs, and for bombs that are air bursts. For example, in Exercise "Desert Rock," Army troops maneuvered on the assumption that the bomb would be an air burst, and thus create insignificant residual radioactivity. This is consistent with the general evalution contained in *Effects of Atomic Weapons,* but not necessarily sound if the enemy desires to maximize fallout.

The fallout problem for those responsible for massive retaliation may be somewhat greater than heretofore contemplated. Consider, for example, the hypothetical problem "Radiological Recovery Plan for a Strategic Bombing Base" cited in the most authoritative manual prepared to date.

The problem made the following assumptions and decisions for illustrative purposes:

1) Runways were not hit, and



Minneapolis-Honeywell Regulator Co.

Figure 11: Low Altitude Bombing Systems (LABS)

the majority of planes were undamaged by the contaminating attack,

2) Aircraft were kept in operational readiness at all times,
3) Trained personnel and equipment were available to give aircraft a quick hose-down,
4) Only ground crews were used for pre-flight check and warm-up,
5) Strike and other personnel received no radiation during the attack,
6) Strike personnel were brought directly to their planes *24 hours after the attack (H plus 24),* and spent not more than 1½ hours in previously decontaminated areas before takeoff,
7) Strike personnel returned 24 hours later (H plus 48),
8) Strike personnel were affected only by radiation at their base, and received no dosage in flight,
9) Base personnel were trained and equipped with the necessary scrapers, bulldozers, tank trucks for hosing, etc.
10) Additional missions were not flown until H plus 120 hours.

Recognizing all of the above simplifying assumptions, the cost of this attack to the SAC flying personnel and ground crew alike was calculated at 225r. This is over 22 times the recommended safety level of 10r established by the National Academy of Sciences. Because the dose was received over several days, it would cause only about 15 per cent of the personnel to be sick. In addition, the life expectancy of those receiving a dose of 225r would be decreased by an indeterminate amount, but which one authority would estimate at about 18 months. The rule of thumb is a 1 per cent decrease of life expectancy for each 100r received over an extended period of time.

The preceding analysis has been presented with appropriate documentation to facilitate criticism, for if the findings are valid, consideration should be given to various active steps. Among these are the following:

1) *A major effort to minimize the fallout problem.* This may be done in part by increasing the emphasis on the development of the so-called "clean" bomb.

2) *Modification of the bases of massive retaliation from land to water.* This consideration originates from the finding that a surface burst over deep water reduces the local fallout from about three-eighths to three-fourths the comparable fallout from a land surface burst. The reduction is due to the evaporation of many of the drops of water before they reach the ground.

From the enemy's viewpoint, such a defensive tactic would increase the ultimate hazard to him, providing he is in the same general latitude. From the defensive, this tactic would tend to increase the fall time of the contaminated particles, and because

the decay of such particles is very great during the first hours or days, the fallout will be less dangerous when it does become deposited on the earth.

The built-in protective measures against fallout that are possible through water-based massive retaliation are illustrated in Figure 12, which shows the *Shangri-La* testing its radioactivity protection and decontamination screen of water. Contaminated particles falling on a vessel such as this would be washed into the sea. The particles themselves would tend to be much finer than those caused by land surface bursts, thus further contributing to the protective features of water-based retaliation.

Placement of the bases of massive retaliation *under* water, such as the nuclear submarine and Polaris weapons system, warrants careful consideration as our best strategy to counter the Soviet ICBM threat.

3) *Maximize the use of ground burst weapons of low yield in our massive retaliation operational planning.* Such tactics increase the local fallout problem for the enemy, by reducing the extent of either tropospheric or stratospheric fallout, and reduce the extent of the long-term fallout hazard to the US. The AEC experience shows that an atomic device exploded on the surface distributes about 80 per cent of its fission products on the ground within a few hundred miles of the burst point. Development of a "cleaner" bomb together with this tactic would make massive retaliation less costly in terms of US casualties resulting from the backlash. This strategy might also be adapted by an enemy who wishes to maximize the local fallout while minimizing damage from his own fallout.

4) *Development of improved decontamination procedures.* Such procedures are necessary to enable military missions to be performed with acceptable losses. As indicated earlier, the Navy has made tremendous advances in decontamination procedures and appears to have a unique advantage over the other services. It has readily accessible water which can be used as a decontaminant, a means of flushing the water through built-in and supplementary spraying mechanisms, and a ready place of disposal for the washdown water. It may be possible to develop other decontamination methods such as strippable paint, special chemicals, and scraping.

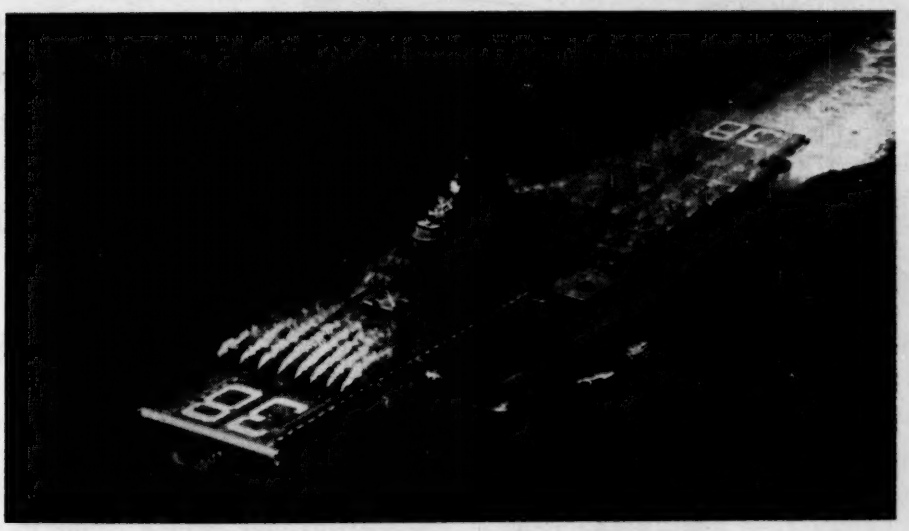


Figure 12: USS* Shangri-La *tests its anti-fallout protective and decontaminating system, with aircraft on flight deck. A moving base can escape fallout through its own movement, minimize the effects if caught. Using its built-in protective system, it can resume operations at a speed far surpassing that possible for similarly contaminated land bases.

5) *Greater emphasis should be placed on pre-attack stockpiling of essential survival items for use in the immediate post-attack period.* This means modification and expansion of pertinent stockpiling programs of the Department of Defense and the Office of Civil and Defense Mobilization. Under conditions of massive nuclear attack, strategic and critical minerals and metals are not nearly so vital as finished goods that can maintain life. Life itself is our greatest productive asset — and its preservation must be a paramount objective of national policy.

6) *Construction of shelter against the radiation hazard for all persons in the US, and additional blast and thermal protection for persons living in or near target areas.* As the various figures accompanying this analysis show, there is no longer a "safe" place in the US. In addition to fallout distributed by the enemy's first blows, there would be a random distribution by unpredictable winds, and further scattering caused by air-to-air and ground-to-air combat and kills with possible resulting detonations from the shot-down aircraft. The greater the availability of shelter for the civilian population, the greater the freedom with which our own forces can use their most powerful weapons to knock down enemy aircraft or missiles.

It is hoped that this analysis will provoke sufficient consideration to the implication of the dangers of massive retaliation, and that some contribution will thereby be made to the development of a strategy grand enough to insure the attainment of our military objectives, and yet fine enough to accomplish these objectives with minimum and acceptable losses. USMC

Dr. Parsons graduated from the University of Akron (BSc) and Cornell University (PhD). From 1950 to 1954 he served with the Directorate of Intelligence, USAF. Many leading magazines have published his articles in the field of military science and strategy. He wrote this article, "To effect some contribution to the professional military literature on the significance of residual radioactivity, and to suggest certain steps that may be considered to minimize this unique threat to our security."

A TOUCH OF TRADITION

By LtCol John H. Magruder, III

"Orders!—In testimony of respect to the memory of the late Lieut. William S. Bush, who gallantly fell in the action with the Guerrière on the *19th Ulto. it is ordered that crape* [sic] *be worn by the Officers of the Corps on the left arm and hilt of the Sword for one month. Officers at distant Command will execute this Order, as to time, from the receipt of it with them."*

F. Wharton
Lt. Col., Comt. M. Corps
Hd. Q's of the M. Corps
Washington Sept. 6th, 1812

THE UNITED STATES FRIGATE *Constitution,* Capt Isaac Hull, and His Britannic Majesty's Frigate *Guerrière,* Capt James Dacres, had their rendezvous with history on the afternoon of 19 August 1812, some 700 miles to the east of Boston Lighthouse. And in all the annals of maritime warfare there are few events that have more startled the world than did this short but furious naval *tête à tête.*

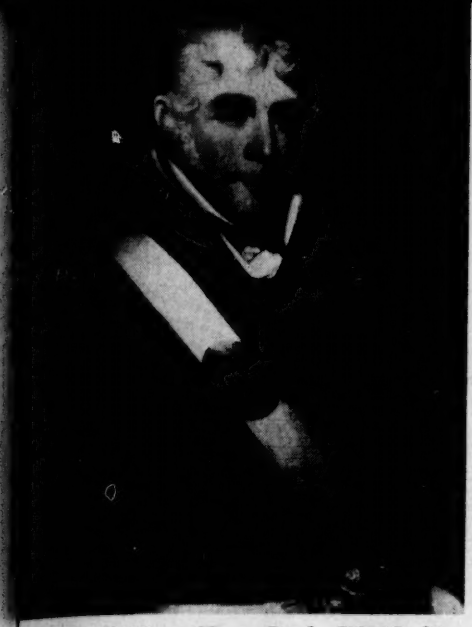
Long forced to submit to the taunts of the Royal Navy—"a bundle of pine boards," over-armed and over-rigged, they had mocked on more than one occasion—a Yankee frigate at last was to have an opportunity to give the enemy his comeuppance.

For some 3 hours the captains maneuvered—reducing canvas, clearing for action and taking a distant measure of each other's long guns. Shortly after 6:00 p.m., Hull, tired of such dallying, set his main topgallantsail and directed his bows to the enemy. Yardarm to yardarm, for the next 10 minutes, the roar of cannon and the rattle of musketry vied with the crash of solid shot striking home. Rising and falling over the heavy Atlantic swells, the 2 ships drove on before a fresh nor'-wester in a cloud of exploding splinters that engulfed the lower rigging. At 6:15 p.m., *Guerrière* took a crippling blow as her mizzen mast crashed into the sea over her starboard quarter. The dragging action of her mizzen hamper, acting as a giant rudder, brought her bow up sharply to starboard and into the wind. Hull, quickly taking advantage of the enemy's hurt, put his own helm up, striving for a position across the English bows. As his gunners gave *Guerrière* 2 vicious raking broadsides, Hull ran into difficulties of his own. *Constitution* shot into the wind, but because of damage to her rigging, failed to fall off as smartly as expected. With his sails luffing, he ranged across the enemy's bows, quickly losing headway. Unable to avoid a collision, *Guerrière's* bowsprit rammed across the American quarterdeck, her jib boom tangling in Hull's mizzen shrouds while her cutwater chafed his starboard side.

Seeing the ready-made bridge from ship to ship, both captains reacted as one—boarders!

On *Constitution,* seamen and Marines rushed to the point of contact armed with cutlasses, pikes, pistols and muskets. To Dacres, his ship already badly injured, boarding might offer the only way to retrieve his ebbing fortunes. His men came streaming up from his lower decks and massed behind his forward bulwarks.

Anxious seconds ticked by as the 2 frigates hung together like tired boxers in a clinch, each side waiting for the other to make the first move. It was so still along the upper decks that on *Constitution* they could hear the British commander instructing his divisions. For a moment the battle lay in limbo as *Guerrière's* bowsprit lunged and dipped over the heads of the Americans: Morris, first lieutenant, and Alwyn, sailing master, at the head of the half naked,



1stLt William Sharp Bush, USMC, Senior Marine Officer aboard the USS Constitution, *1812. This portrait of one of the Corps' earliest heroes was recently discovered in New Jersey and has never before been published. The original painting has been donated to the Marine Corps Museum by Mr. Warren Rishel, a descendant of Lt Bush.*

barefooted seamen; William Bush, Senior Marine Officer, with his Second, Contee, leading the blue coated, pipe clayed Marines.

But battles are won by doing, not by waiting.

Spying a rope dangling from *Guerrière's* bowsprit, Lt Morris swung up onto the enemy's massive boom to lash the 2 ships together. Bush, scrambling for the honor of being first over the enemy's side, jumped onto the taffrail, sword in hand, with Alwyn right behind him. Immediately, a staggering fusilade of musketry burst from the British tops — promptly answered by Marines still left in the rigging of *Constitution*. And again the battle raged in full fury. Morris managed to take several turns of *Constitution's* broken main brace around *Guerrière's* bowsprit, then suddenly fell stunned to the deck, a British musket ball through his body. Alwyn crumpled, a ball in his shoulder from the Englishman's main top—and a scarlet coated member of the British sea regiment hastily blew out his pan, bit off another cartridge and recharged his Tower musket. Bush, grabbing hold of a rope, was on the hammock nettings, indifferent to the enemy fire. His job was to lead and he stood ready. Raising his voice above the din of battle, he called to Hull, "Shall I board her?" As he turned to execute, a ball crashed through his skull. The gallant Bush plunged down among his Guard and moved no more.

With 3 of his principal officers casualties within but a matter of seconds, Hull leapt onto an arms chest to personally lead his boarders over the side; but a seaman unceremoniously yanked him back, imploring him to keep away from the taffrail unless he first took "off them swabs"—the gold epaulets that already had proved such fatal magnets to British lead.

The American topmen were busy, too. Dacres dropped from his own hammock netting, shot through the back. The British master fell—then the master's mate. Bush had fallen, but his well-drilled Marines were adept at their profession. A capable officer, he had evolved an innovation. His Marines were organized into fire teams in each top — 6 men loading while a seventh, the best shot, fired.

In the end, neither side boarded. The rolling of the ships caused *Guerrière's* bowsprit to break loose from *Constitution's* rigging. The wind filled the American's canvas and she fell off. As *Guerrière* dropped astern, corkscrewing in the following sea, her bowsprit struck violently on *Constitution's* taffrail. The sudden wrench to her weakened shrouds brought her foremast and mainmast hurtling down together. Now a dismasted hulk, incapable of further resistance, with her gunports taking water and her decks strewn with dead and dying, the enemy fired a gun to leeward as a signal of submission. The time was 6:23 p.m.

Eleven days later, *Constitution,* bedecked with bunting, proudly entered Boston Harbor to announce the result of the first frigate action of the new war. The unbridled joy with which the nation welcomed this victory came not without its cost. *Constitution* had lost her first lieutenant of Marines, William Sharp Bush, and 6 seamen killed. Her first lieutenant, Charles Morris, her sailing master, John Alwyn, 4 seamen and one Marine had been wounded.

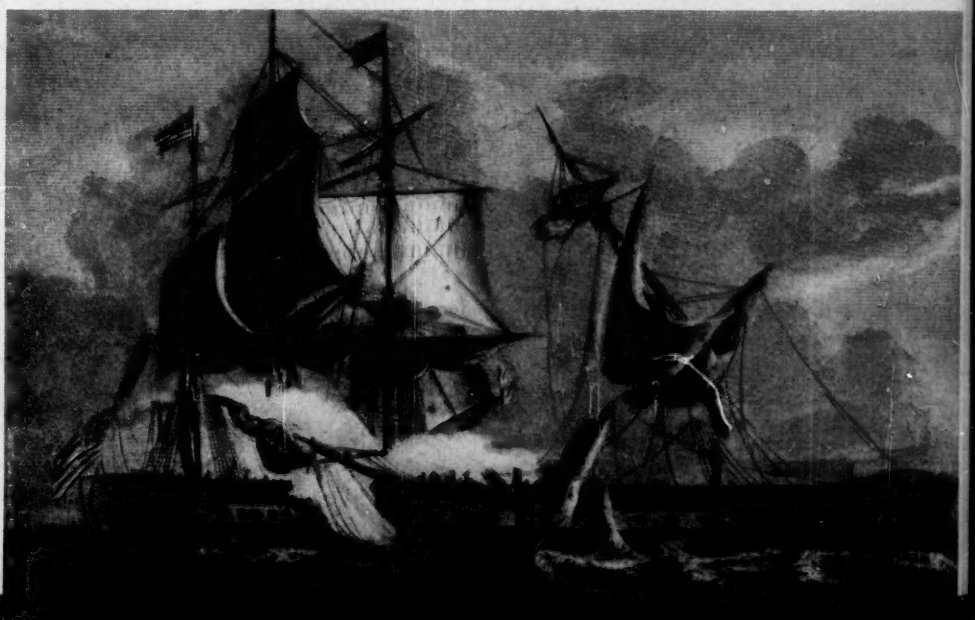
The enemy, on the other hand, had suffered 23 dead and 56 wounded. *Guerrière's* hull had been so damaged that it had been necessary to sink her rather than bring her into port as a prize. *Constitution* was scarcely touched in the hull and the damage to her rigging had been repaired within half an hour.

Without question, this was the most important single ship action in US naval history. In less than 30 minutes, the first Yankee frigate to meet a British ship of her own class had badly mauled the ego of the Terror of the World. The US Navy was now a power to be reckoned with on the high seas.

"If we refer to the past services of the Marine Corps, they will be found to be among the most distinguished. Whether you take them at the charge of the bayonet, in unison with the seamen wielding the sabre and pike [or] in their various actions on the ocean, you will find they have ever sustained a high reputation for discipline, conduct and courage."

Commodore Charles Stewart, USN—1830

Guerrière *breaking away from the* Constitution

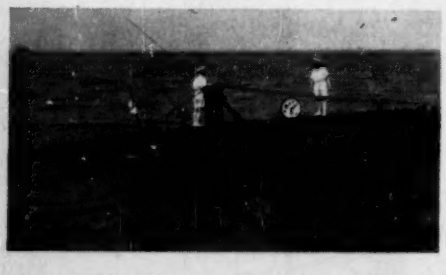


Two Lockheed Hercules transports are slated to join the Marine Corps' air arm in early 1960 to operate in dual roles of inflight refueling tankers and assault transports.

Designated the GV-1, each aircraft will be able to simultaneously refuel 2 airborne jets and can be quickly converted to an assault transport with a payload of 20 tons or 92 men.

As the prop-jet is phased into operation, the Marine Corps plans to reduce its present transport inventory by 50 per cent, because of the greatly increased payload provided by the Hercules.

Operating with the US Navy in harbor defense exercises at Little Creek, Va., is a miniature British submarine, *HMS Spratt*. Carrying a 7-man crew, the experimental sub is capable of maneuvering in tight areas where conventional underwater boats would be handicapped by their size. For the trip to this country the midget craft hitched a ride "piggy-back" style on board a US transport.



A new pistol of revolutionary design uses a triangular cartridge case made of plastic.

The hand gun—known as the Dardick pistol—employs the open-chamber system, eliminating the action of ramming the cartridge into the firing chamber and extracting the fired case. Made of a rigid polyethylene, developed by Celanese Corporation of America, the plastic cartridge's triangular shape eliminates rupturing—a fault in previous efforts to develop an open-chamber system—and allows smoother feeding and a greater number of rounds to be held in the magazine.

The gun functions much like a revolver. The cylinder has only 3 chambers, each open on the outside. The cylinder picks up a cartridge, moves it into firing position, fires it and ejects it, rotating 120 degrees for each complete cycle. A 15-shot pistol, it has .38 cal. and .22 cal. interchangeable barrels.

A propeller-driven combat surveillance drone is being built for the US Army Signal Corps by Republic Aviation Corporation. Designated the SD-3, it uses sensory techniques to keep watch on enemy installations and movements. The drone is recoverable and "zero-length" launched.

The Navy-Marine Corps Stadium fund has gone over its $3,000,000 goal and contributions still coming in will go into a stadium maintenance fund at the US Naval Academy.

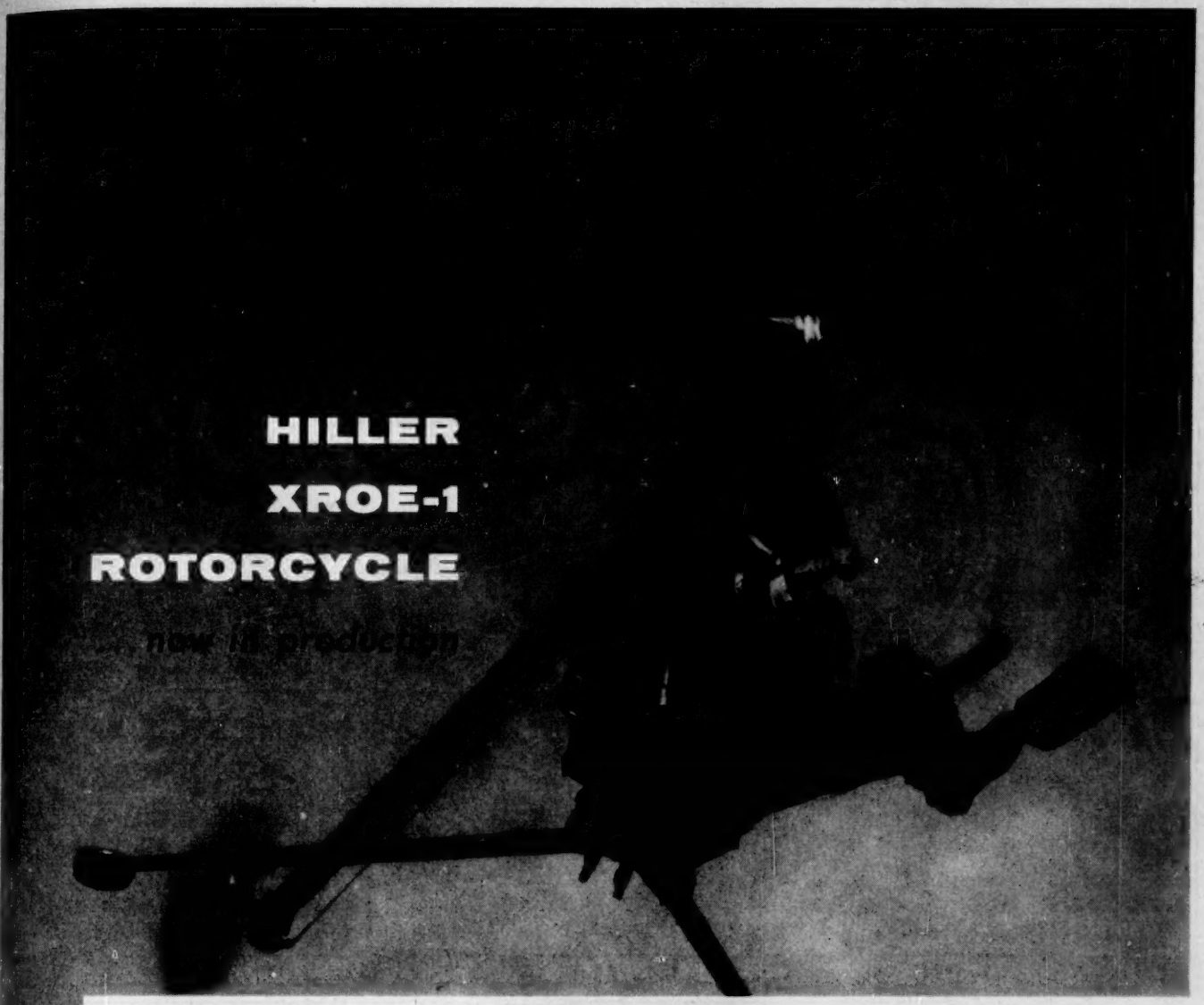
The 29,000-seat stadium is scheduled to be completed in time to open Navy's 1959 football season.

Under development by Chrysler Corporation for the Army is a wingless vehicle powered by ducted fans. Designed to carry a minimum payload of 1,000 pounds at a 50 knot cruising speed, the vehicle has potential use in reconnaissance, resupply of front line troops, redeployment of small tactical elements and as a highly-mobile gun platform.

Both lift and flight of the vehicle are directed by use of vanes—similar to Venetian blinds—which deflect the air stream to the desired direction.

The first production model of the F8U-2, an advanced version of the 1,000 mph-plus Crusader, has made its initial flight at Chance Vought Aircraft's Dallas, Tex., plant.

Equipped with a more powerful engine and improved fire control and radar systems, the jet fighter flies at nearly twice the speed of sound and has outstanding acceleration and high altitude speed capabilities.



From its completely folded condition, the XROE-1 Rotorcycle is assembled and flown in the space of 5 minutes.

Marines to Receive World's First Completely Foldable Helicopter for Evaluation!

The Hiller Rotorcycle has been projected as the least complex method of obtaining the air mobility now sought as a prime advantage in military operations. Its size, simplicity, and "fly-anywhere-land-anywhere" capability make the aircraft an invaluable item in countless military problems.

In 1959 . . . watch for the HILLER ROTORCYCLE!

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MILITARY SECRETARY TO THE COMMANDA
Colonel Roy L. Kline

ASSISTANT COMMANDANT OF THE MARINE CORPS
LtGen V. J. McCaul

CHIEF OF STAFF
LtGen R. E. Hogaboom

DEPUTY CHIEF OF STAFF (PLANS)
MajGen Carson A. Roberts

BGen George R. E. Sh

ASSISTANT CHIEF OF STAFF, G-1
MajGen Donald M. Weller

ASSISTANT CHIEF OF STAFF, G-2
BGen James M. Masters, Sr.

ASSISTANT CHIEF OF STAFF, G-3
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DIRECTOR OF PERSONNEL
BGen August Larson

QUARTERMASTER GENERAL
MajGen Roy M. Gulick

INSPECTOR GENERAL
MajGen Homer L. Litzenberg

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Col Donald R. Nugent (R)

COUNSEL FOR THE COMMANDANT
Mr. R. S. Hatch

DIRECTOR OF WOMEN MARINES
Col Julia E. Hamblet

MARINE CORPS

THE COMMANDANT

AIDE DE CAMP

LtCol James E. Johnson

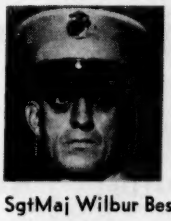
AIDE DE CAMP

LtCol Robert B. Carney

BOARDS

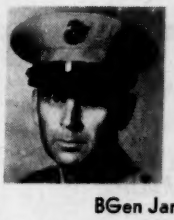
SECRETARY OF THE GENERAL STAFF

Col William J. Van Ryzin



SERGEANT MAJOR OF THE MARINE CORPS

SgtMaj Wilbur Bestwick



LEGISLATIVE ASSISTANT TO THE COMMANDANT

BGen James D. Hittle (Ret)

ASSISTANT CHIEF OF STAFF, G-4

MajGen Henry R. Paige

DIRECTOR OF AVIATION

MajGen John C. Munn

DIRECTOR OF RESERVE

MajGen Alan Shapley

FISCAL DIRECTOR

BGen Frederick L. Wieseman

DIRECTOR, POLICY ANALYSIS DIVISION

Col Norman J. Anderson

DIRECTOR, ADMINISTRATIVE DIVISION

Col William K. Enright

STAFF MEDICAL OFFICER

Capt W. C. Baty, Jr. (MC), USN

STAFF DENTAL OFFICER

Capt L. M. Smylie (DC), USN

(Copies available on request)

Decorations and Awards

SILVER STAR MEDAL

1STSGT JOHN C. ZIM
1st Separate Eng Bn, 1st Mar Div
Okinawa, 4 June 1945

* * *

LEGION OF MERIT

LTCOL GEORGE A. GILILLAND
2d Bn, 1st Marines
Korea, 9 Feb - 15 June 1953

* * *

GOLD STAR in lieu of 4th Award DISTINGUISHED FLYING CROSS

MAJ ROY L. ANDERSON
Stratford and Windsor Locks, Conn.
9, 10, 11 Nov 1956

* * *

NAVY AND MARINE CORPS MEDAL

2DLT ROBERT H. MURRAY
3d Bn, 1st Marines
10 June 1957

* * *

NAVY & MARINE CORPS MEDAL (continued)

2DLT JOHN L. SHANAHAN
3d Eng Bn, 3d Mar Div
Okinawa, 5 Sept 1956

* * *

SSGT JOHN D. REID
Fredericksburg, Va., 28 July 1957

* * *

SSGT DONALD L. WILEY
2d ITR
Camp Pendleton, Calif., 20 Dec 1957

* * *

SGT LESTER J. FORST
Ft. Bragg, N. C., 10 April 1957

* * *

SGT ROGER W. WHALON
Puerto Rico, 24 May 1957

* * *

NAVY & MARINE CORPS MEDAL (continued)

SGT CHARLES R. EICHOF
Bridgeport, Calif., 26 Oct 1957

* * *

PFC DONALD J. JAMES
Kodiak, Alaska, 23 Oct 1957

* * *

The following NAVY AND MARINE CORPS MEDALS were awarded posthumously

1STLT DALE O. FORTINE
Long Beach, Calif., 14 June 1957

* * *

CPL LOUIS E. FELDMAN
Ponto, Calif., 21 Aug 1955

* * *

PFC ZARAGOZA CARRALES, JR.
2d Bn, 9th Marines
Okinawa, 5 Sept 1956

* * *

BRONZE STAR MEDAL

CAPT LEROY BALD
USS Massachusetts
30 July 1944 - 1 Sept 1945

* * *

SGT BOBBIE D. DRYDEN
3d Bn, 11th Marines
Korea, Nov 1950

* * *

PFC DAVID G. LONG
3d Bn, 11th Marines
Korea, 7 Dec 1950

* * *

AIR MEDAL

CAPT FRANK M. HUGLIN
MAG(HR)(L)-16
Philippines, 17-21 Mar 1957

* * *

1STLT MERLE D. JANKE
MAG(HR)(L)-16
Philippines, 17-21 Mar 1957

* * *

1STLT LEROY S. KENNEY
Air Development Squadron 6
Antarctic, 20 Oct 1956 - 4 Feb 1957

* * *

1STLT JAMES R. LINDSAY
MAG(HR)(L)-16
Philippines, 17-21 Mar 1957

* * *

2DLT JAMES S. CHASTAIN
MAG(HR)(L)-16
Philippines, 17-21 Mar 1957

* * *

TSGT ROBERT L. BUTTS
NATC, Patuxent River, Md.
21 Mar 1957

* * *

AIR MEDAL
(continued)

TSGT MERRILL D. HENRY
MAG(HR)(L)-16
Philippines, 17-21 Mar 1957

* * *

SGT FREDERICK T. KRABBE
MAG(HR)(L)-16
Philippines, 17-21 Mar 1957

* * *

GOLD STAR in lieu of 7th Award
AIR MEDAL

LTCOL HAL R. KOLP
Air Development Squadron 6
Antarctic, 20 Dec 1955 - 19 Jan 1956

* * *

LETTER OF COMMENDATION

COL JOHN G. WALSH, JR.
Korea, 25 June 1954

* * *

LTCOL WALTER M. CAULFIELD
Hq, MAAG
Korea, 1 Feb 1957 - 14 Dec 1957
Awarded by MAAG, Korea

* * *

MAJ STANISLAUS A. ANTOS
Air Development Squadron 6
Antarctic, 4 Dec 1956 - 17 Jan 1957

* * *

CAPT THOMAS F. ST. DENIS
VMF-543
Madison, Wis., 6 July 1957

* * *

1STLT JACK V. KAUP
Oahu, Hawaii, 9 Mar 1957

* * *

LETTER OF COMMENDATION
(continued)

CWO JOHN A. HALDEMAN
3d Bn, 1st Marines
Korea, 8 Feb - 14 May 1953

* * *

MSGT HENRY STRYBING
Air Development Squadron 6
Antarctic, 16 Oct - 9 Dec 1956

* * *

TSGT EDWARD J. SILBERMANN
Air Development Squadron 6
Antarctic, 3-14 Jan 1957

* * *

TSGT DAVID J. SULLIVAN
Air Development Squadron 6
Antarctic, 4 Dec 1956 - 17 Jan 1957

* * *

TSGT RAYMOND W. THORPE
Air Development Squadron 6
Antarctic, 3-14 Jan 1957

* * *

SSGT LEROY E. ERWIN
Ft Benning, Ga., 4 Feb 1954 - 15 Aug 1957
(Awarded by USA)

* * *

Bronze Star in lieu of 2d Award
LETTER OF COMMENDATION

1STSGT LAMAR D. DINKINS
Jacksonville, N. C., 5 Feb 1958

* * *

WHY A

YA MARINE CORPS?

By Lt Col John A. Crown

THE YEAR 1958 IS A YEAR OF tremendous power. In the 19 years that have elapsed since Adolf Hitler touched off WWII, weapons development has progressed to a degree that would have defied the imagination of a military man in 1939. Scientific discoveries have placed such awesome destructive power in the hands of the major nations of the world that the entire human race could be brought to the brink of extinction in an all-out conflict.

In view of the spectacular power in the hands of the US, as well as that in the possession of both her friends and her enemies, is there any requirement for a relatively small elite military organization such as the Marine Corps? As the range and destructive power of weapons have increased, so have the costs. Thus, the US is devoting astronomical sums to defense, and as a result is looking for every possible source of military economy. At this time the Marine Corps requires 2 per cent of the national budget, no small sum. Is there a real justification for it?

Sentiment and tradition may be very well, under certain circumstances, but when it comes to spending millions of tax dollars to maintain the Marine Corps, the justification for such expenditures must be based upon a great deal more than sentimental reasons or for the sake of tradition. The battleship, once the proud backbone of the Navy's battle fleets, has been relegated to mothballs despite her proud traditions. But the fact is, we *have* a Marine Corps and the questions thus appear to be: Why *do* we have one, and, is it justified?

In order to properly consider these questions, let us first look at the present.

Both the US and Soviet Russia have intermediate range ballistic missiles (IRBM) and intercontinental ballistic missiles (ICBM). These weapons give vent to the ultimate in pushbutton warfare. Satellites bearing American and Russian markings encircle the globe, indicating that we are on the threshold of a space age. Men are rising to unexplored heights in the stratosphere by means of balloons and planes, in the quest of scientific data which can help them rise even higher. Dogs and mice are shot into space in order to test their reactions and apply them toward plans for shooting human beings into space. Both the US and Russia are endeavoring to either hit or circle the moon this year in order to add to the increasing amount of scientific data.

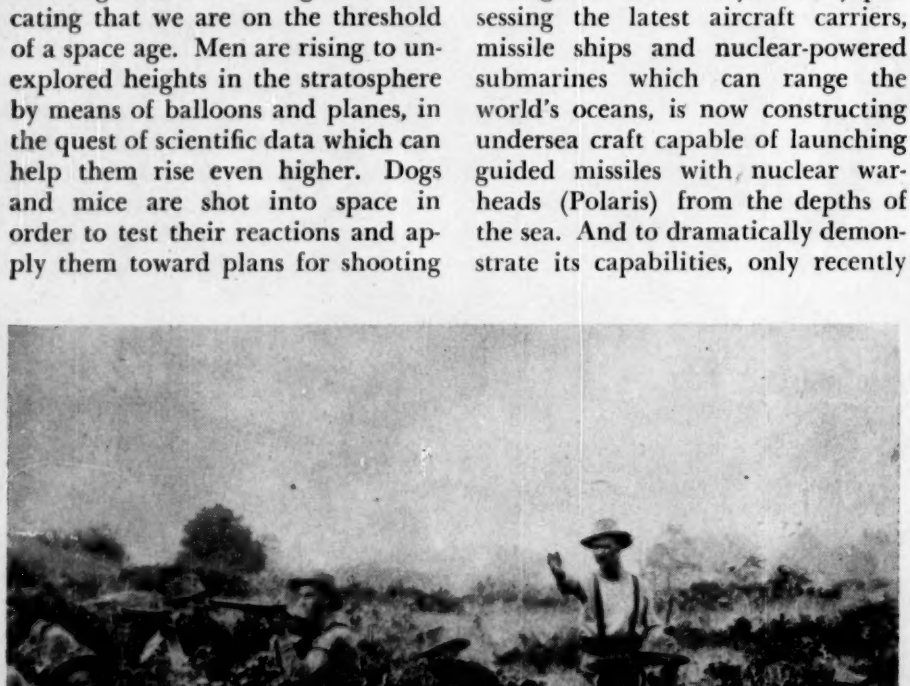
The US Air Force has its powerful Strategic Air Command (SAC), capable of delivering "massive retaliation" at any spot on earth. The Army, equipped with the latest weapons science can devise, provides a strong mobilization base such as would be required in the event of a long war. The Navy, already possessing the latest aircraft carriers, missile ships and nuclear-powered submarines which can range the world's oceans, is now constructing undersea craft capable of launching guided missiles with nuclear warheads (Polaris) from the depths of the sea. And to dramatically demonstrate its capabilities, only recently the Navy sent 2 nuclear-powered submarines under the North Pole. All of this is certainly a formidable and costly array of power, but it is definitely necessary for the proper defense of the US.

In relation to the rest of the world, the US is, in effect, an island. Canada and Mexico, neither of them considered a potential enemy, may be reached by means of land transport. But for the remainder of the entire world the US is dependent upon sea transport, and based on a quantitative comparison, to a limited degree upon air transport. This is applicable, of course, to both commercial and defensive operations. Because of this relative isolation, as well as other historical factors, the US adhered strongly to the Monroe Doctrine until she was forced into WWII. True, from a national point of view, she broke briefly with the Doctrine upon her entry into WWI. But as soon as her military operations in Europe were ended the reaction set in and she hastily returned to her position of hemispheric isolation.

With the termination of WWII in 1945, however, the world had grown too small and the US had grown too large to limit herself to a primary interest in hemispheric affairs alone. The island power that is the US, reluctantly emerged as the acknowledged leader of the Free World, and in the 13 years that have elapsed since the end of WWII her world-wide responsibilities have grown tremendously. They encompass political, economic and military problems.

In the execution of this leadership the US is required to depend primarily upon sea transport, and to a lesser extent upon aviation. Because of our geographical location the sea can only be regarded as our

Lt Col Crown was commissioned in the Marine Corps in 1942. He served as a platoon leader and company commander in the 5th Marines, 1st Mar Div in the Guadalcanal, New Britain and Peleliu operations. More recently he served as Asst G-3, 1st Mar Div and CO, 1st MT Bn. A graduate of Emory University, he has attended the Infantry School, Ft Benning, Ga., and Senior School, MCS. He has worked as a reporter and assistant city editor on the Atlanta Journal, Atlanta, Ga. His present duty station is MCS, Quantico.



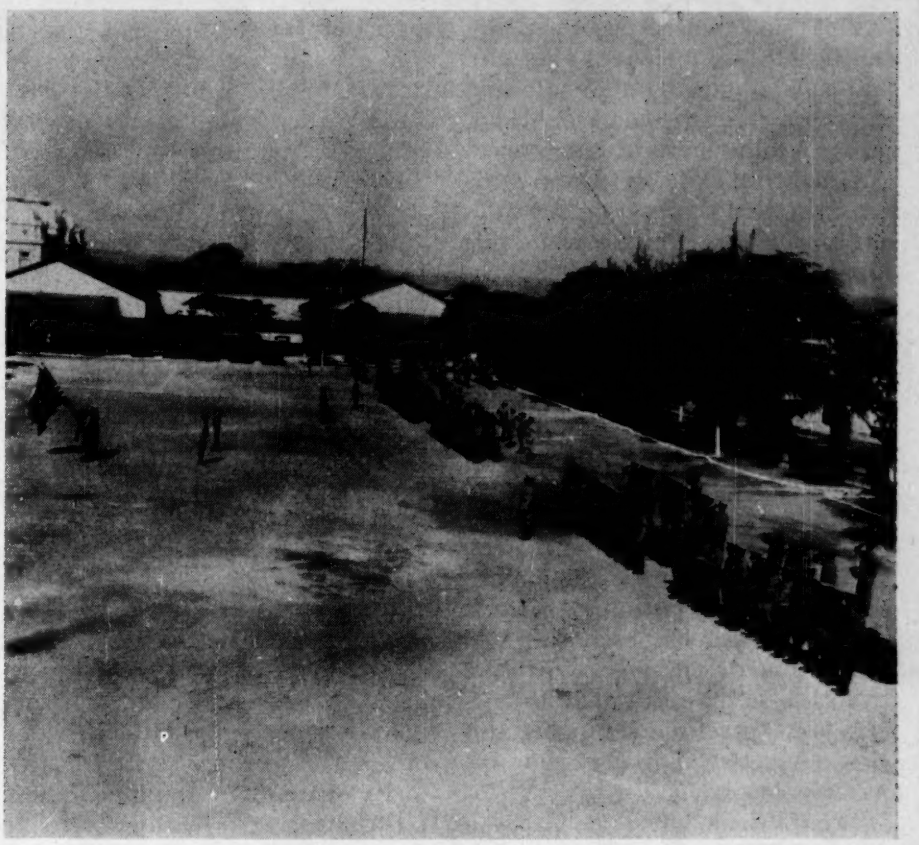
Marines in Cuba — 1898

military highway, and amphibious warfare is an essential element of our arsenal. One qualification for leadership is to have the necessary striking force capable of carrying out assigned functions. And in today's world, time is a vital element. That striking force must be either already on the scene or capable of getting there on extremely short notice. Thus, what is required is a force trained in amphibious warfare and at the same time in a constant state of readiness to face any threat hurled at the US or any other portion of the Free World. It is a fair assumption that while an all-out war engulfing the entire world is possible, what is more probable within the foreseeable future is limited war. Every time a limited war arises, or the threat of a limited war is apparent, accelerated action is absolutely necessary in order to prevent its spreading to a general conflagration. And, at the same time, such action is necessary to prove conclusively that the US is both ready and capable of exerting its leadership. Thus, in the face of the demands of today there is a great need — greater than ever — for the things the Marine Corps has to offer.

But why Marines? What have they that others do not have? For this we must look—momentarily—into the past.

Beginning with the Revolutionary War (1775-1783) and continuing through WWII (1941-1945), the US has engaged in 7 more or less major military conflicts. (By "major" is meant that the efforts of all military services were required, as well as the recruitment of volunteers.) In addition to the 2 already identified, there is the War of 1812 (1812-1815), the Mexican War (1846-1848), the Civil War (1861-1865), the Spanish-American War (1898) and WWI (1917-1918). Thus, since the founding of the Republic through WWII, our major war efforts have accounted for 24 years out of the 170 years covered here.

Yet, in this same period of time, the Marines have participated in combat operations, a show of military force or emergency combat alerts beyond the borders of the US, during 124 of these years. In other words, between 1775 and 1945 there were only 46 years in which the Marines were not actively engaged in military operations in the furtherance of our national interests. It is worth noting that the Marines were engaged in military operations during 100 of these years while the US was ostensibly at peace.



Marines in Haiti — 1932

The major wars of the past have conclusively proven that when called upon, the Marines have not been, and will not be, found wanting. But the principal function of the Marines is not, and never has been, that of a combat force designed *only* for large wars. Although functioning as an elite group in such wars, the Marines are designed as an effective mobile force, operating with the Navy, always combat ready for any requirements that may arise. In fact, over the years the world-wide mobility enjoyed by the Marines has given them a certain distinction. The Marines, alone of all our Armed Forces, can be landed for warlike purposes without their actions being accounted acts of war. Through long experience and the affinity built through such a mutual bond, the Navy-Marine Corps team is unique. The capability to project an effective amphibious force ashore anywhere in the world is a mighty weapon in the arsenal of the US. And there is ample evidence that this fact is recognized by the American people. It is the people, through their elected representatives, who have striven—often in the face of strong opposition—to preserve and nourish the Marines vigor and readiness to fight.

Amphibious operations of various scope had been undertaken with varying success throughout the world ever since the first crude boat was developed. But when the 1915 British amphibious attempt at Gallipoli ended in dismal failure, it sounded the death knell for the ship-to-shore assault—or so a great many people thought. Winston Churchill, then First Lord of the Admiralty, conceived the Gallipoli operation as a threat to the Central Powers' southern flank, to ease pressure on Russia, and quite possibly to open the door to an early end of the war. (The possibilities of altered history *IF* this operation had been successful—no Russian Revolution, no entry of the US into the war—stagger the imagination.) But planning and preparation for the landing were

lacking and when the operation ended, the bulk of world-wide professional military opinion was that the amphibious assault could not prevail against modern firepower.

Although the Marines had participated in WWI in a non-amphibious capacity, they did not share this gloomy view. Based on their own experience, Marine leaders knew that the doctrine of amphibious warfare must be nurtured and developed if the US was to maintain its position as a major naval power. In the 20 years that followed the end of WWI, the Marines alone — and in the face of indifference, and even hostility — worked unceasingly on the doctrine of amphibious warfare. WWII justified the sweat and effort which had been expended in this undertaking.

No less an authority than the Army's Fort Leavenworth supports this view. A recent Fort Leavenworth text says in part:

"The British effort at Gallipoli during WWI had a profound effect on amphibious warfare. The lack of success of this operation convinced many that the opposed amphibious assault was no longer possible. As a result, amphibious warfare was placed on the shelf. In the US, little or nothing was done toward developing tactics and techniques for this type of warfare except by the Marine Corps.

"Then came WWII. The US and her Allies were *forced* to engage in amphibious warfare in order to defeat Italy, Germany and Japan. There was no other way by which decisive force could be applied against the Axis. As mentioned earlier, the Marine Corps had spent the years between the two world wars studying amphibious operations and developing techniques which would be feasible under then current conditions. Using the Marine Corps experience as a foundation, the Allies refined the techniques, developed doctrines and perfected equipment to the extent that the landings such as Normandy, Southern France, Leyte and Okinawa were possible."

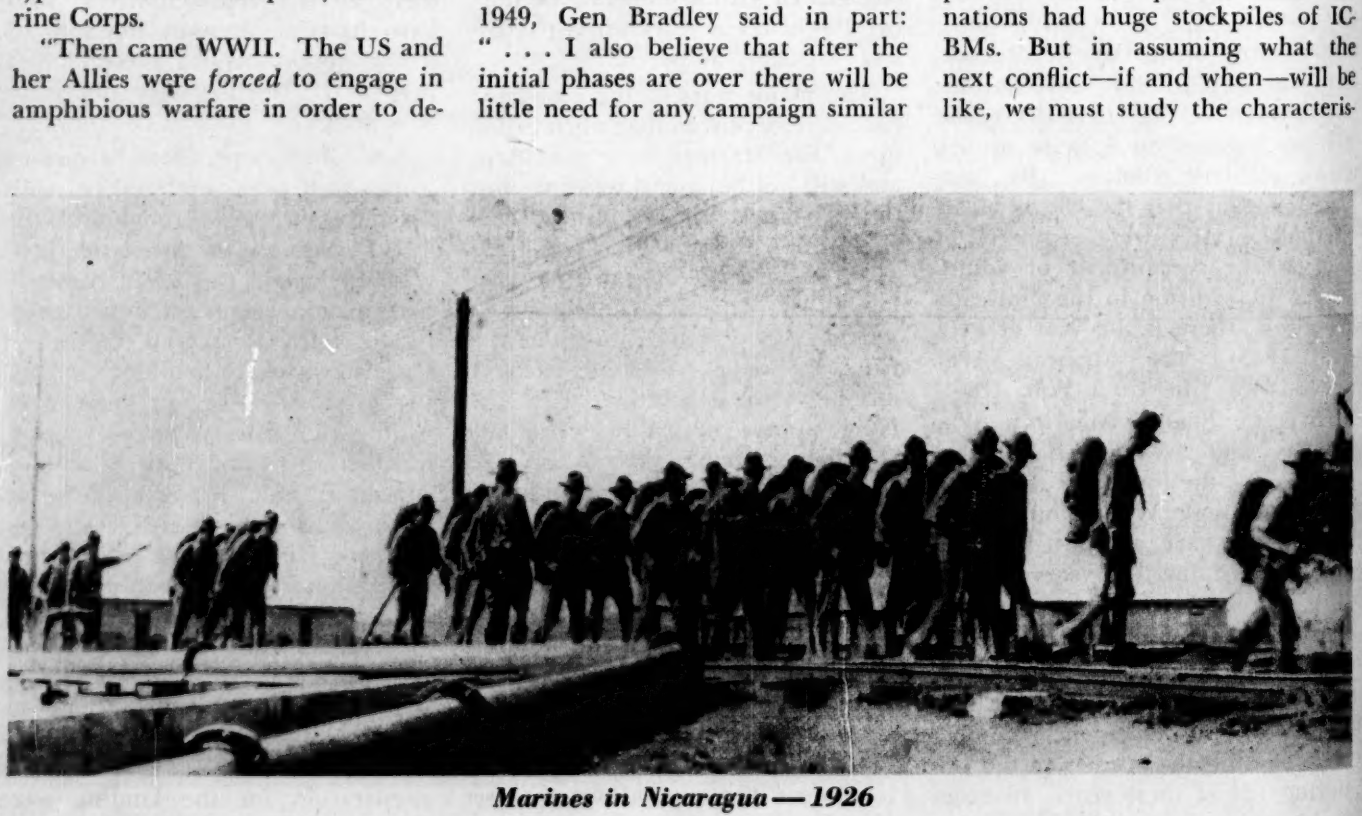
It would appear that the Marine Corps' position on amphibious warfare would now be secure, but this was not the case. Some military leaders were so overawed by the potency of nuclear weapons that they rgarded them as the ultimate weapon, and gave short shrift to other forms of combat. Amphibious warfare, having been a major factor in the Allied victory of WWII, was now placed on the shelf again—or at least an effort was made in that direction.

Testifying before a Congressional committee, Gen Omar Bradley wrote off amphibious warfare as a thing of the past. Appearing before the House of Representatives Armed Services Committee on 19 October 1949, Gen Bradley said in part: " . . . I also believe that after the initial phases are over there will be little need for any campaign similar to the Pacific 'island hopping' that took place during the last war. I also predict that large scale amphibious operations will never occur again..."

Less than a year after this prediction was made, the 1st MarDiv landed at Inchon, and thereby altered the course of the fighting in Korea. And although this was the only combat landing during the Korean hostilities, the presence there of the 1st MarDiv with its well-known amphibious capability, caused the enemy to tie up thousands of his troops in coastal defense.

It has been illustrated that the Marine Corps has functioned in the past as a force in readiness and as an amphibious force participating in operations beyond the immediate borders of the continental US. In order to be properly effective it has had to be a force-in-being. Training in amphibious warfare has had to be constant throughout all echelons. The Fleet Marine Force has had to be capable of embarking—if not already embarked—in terms of hours rather than days and weeks. This has been the measure of the Marine Corps in the past, and it continues to be in the present.

Perhaps Gen Bradley's prediction would be closer to reality if the next conflict were to be one of unlimited effort between the two strongest powers on the planet, and both nations had huge stockpiles of ICBMs. But in assuming what the next conflict—if and when—will be like, we must study the characteris-



Marines in Nicaragua — 1926

Marines in Korea — 1951

tics of our potential enemy. Essentially, is he the type who would prefer to bring on an all-out holocaust, or would he prefer to stir up trouble, foment discontent and riots, and possibly set off small or limited wars in other lands?

Inasmuch as world domination is the aim of the enemy, there is little doubt that he would have no qualms about touching off an all-out war if there were little chance that he would be injured. But as long as the US possesses its present strength, the chances of an attacker getting off lightly is remote. Therefore, it appears that his current aim is to attempt to keep the West off balance by creating dissension, hatred and trouble in every conceivable spot on earth.

The communist view toward peace and war is aptly described by Harold H. Fisher in his Hoover Institute Study (Stanford University Press, 1955), "The Communist Revolution."

"The Communists have never thought of 'peaceful coexistence' as a condition of harmony and good feeling without tension or conflict. The history of human society, according to them, is the history of the class struggle, which is, so to say, automatic. So long as there are classes they will struggle against each other. Science and technology have made the class struggle international and world-wide. This struggle takes many forms — illegal and legal, violent and non-violent—and it may be expressed in various ways —power politics, economic warfare, psychological warfare, guerrilla war, civil war, and total war. Peaceful coexistence to the communist means only that for an indefinite length of time, but not forever, the communist camp and the capitalist camp can coexist *without engaging in total war but not without those other forms of struggle* that are endemic in human society. . . " (italics mine).

The US in its position as a major world power, and as the acknowledged leader of the Free World, has world-wide potlitical, economic and military commitments. Total war could engulf the entire world and the US would of necessity throw into its efforts all possible weapons. She would utilize SAC and its "massive retaliation." In all probability ICBMs and IRBMs would be launched to the maximum extent possible. Polaris-armed submarines would wreak havoc and destruction on the enemy. A fully mobilized Army would engage its opponents. And the Marine Corps, as it has done in every major war in the past, would fulfill its assigned missions. That is recognized in the event of total war.

But what of the other possible means of action which the communists may utilize during a period of "peaceful coexistence"? In the day-to-day struggle between the Communist World and the Free World, in all the myriad forms the struggle may take, the world-wide commitments of the US are affected. But in any action short of total war the masssive power of SAC, Polaris, ICBMs, and a fully mobilized Army constitutes passive (deterrent strength, if you will) rather than active military strength. Thus, with

Marines in Lebanon — 1958

our national and international responsibilities, we must have a force that is both mobile and strong which can be ever ready to move into a dangerous spot—or by its recognized ability to move into such a spot, to preclude the danger arising.

It is currently fashionable to use the relatively new term, "limited war," when referring to one of these danger spots. But what we now call "limited war" is not at all new to the Marine Corps. It has been the Marine Corps which, based on the better part of two centuries of experience, early recognized the nature of the military problem posed by the Soviet post-WWII conquest of nations. Only recently has open recognition been accorded to the long held views of the Marine Corps, i.e., what is now called "limited war." Generations of Marines have participated in "small wars" and the "Small Wars Manual" was the handbook of the Marine not so long ago. Only the ability of the present-day Marine to move quickly to the danger spot has changed, the change being one of marked improvement.

When the Suez crisis broke in 1956, the US had a ready answer. Marines were embarked in ships of the Atlantic Fleet and sent to sea, prepared to fight if it became necessary. Another Marine unit, already based in the Mediterranean, was rushed to Alexandria, Egypt, where it set up a center for evacuating Americans in the area. On the other side of the world, the 3d MarDiv was prepared to move some of its forces into the Persian Gulf if that became necessary.

At Port Lyautey, Morocco, in late 1956, trouble between the French and Moroccans posed a question of safety for the US base there. Within hours, elements of the 2d MarDiv and 2d Marine Aircraft Wing were moving across the Atlantic and assembled on the ground there, ready to fight should the need arise.

When President Eisenhower answered the plea of Lebanon's President, and decided to land troops to protect that government from external subversion, it was elements of the 2d MarDiv which moved in without delay. Inasmuch as the landing was requested by the legally constituted government, it was unopposed, but it carried with it a deep significance. It clearly showed that the US would honor her world-wide commitments and, furthermore, she has the ready strength to do so.

Writing about the Marine landings in Lebanon, a national news magazine (25 July 1958) made this observation: "Neil H. McElroy, US Defense Secretary, noted that, in the latest military operations of the US, the weapons involved were not newfangled atomic weapons, but old-fashioned rifles and machine guns in the hands of ground troops."

The recent instances cited above have not been the only alerts and/or military operations involving Marines. In the past 18 months Marine air and ground forces have executed over 45 short notice embarkations in ships of the Fleet. Most have been for training, but a great many have been even more pertinent.

Having reviewed the past, considered the present and conjectured on the future, we should reach the following conclusions:

1) Application of measures short of general war have been employed by the Navy-Marine Corps team for the better part of two centuries.

2) The capability to apply varying degrees of military force, short of general war, is a greater requirement now than ever before; and it appears to be the long term requirement if the holocaust of general war is to be avoided, and the international contest to be won.

3) The Marines, with the Navy, have this capability—acquired over many years of intimate association.

4) And, therefore, "Why A Marine Corps?" is aptly and accurately answered by the practical statement —"Because the United States has never needed a Marine Corps so much!"

Today, as it has for the past 183 years, the Navy-Marine Corps team has a role to fill. A mobile, amphibious force, a force comprising ships, troops and integrated aviation to support the surface and land operations, is essential to the US in the fulfillment of her world-wide leadership and the responsibilities that go with it. Obviously, any professional military group could be trained to fill this role, but why should this be necessary when the force already exists? USMC

★ ★ ★ ★

Stars in Your Eyes

THE YOUNG LIEUTENANT'S AIR OF CONFIDENCE belied his pink cheeks and generally youthful appearance. Peremptorily, he ordered the blonde behind the counter to show him the entire stock of General's rank insignia. After some rather cutting observations on the range and quality offered, he selected a set of BGen's stars and ordered them wrapped. He had not revealed that they were for his father, recently selected for BGen.

Clutching his purchase, the young man strode away. The buxom blonde had her last word. In a voice that carried clearly through the PX she broke up his composure with, "Happy dreams, sonny!"

Col A. M. Fraser

"Just One of Those Days"

IT WAS ONE OF "THOSE" Monday mornings with a half dozen men up to "see the Man" for various minor offenses. The culprits were waiting their turns in the hall outside the Skipper's office. One man had just been marched out and another marched in and stood at attention before the harried Commanding Officer who proceeded to read off the misdeeds listed before him, dress down the young Marine and finally pausing for breath, said, "Well, what do you have to say for yourself."

"S-S-Sir," stammered the flustered Marine, "I-I-I didn't do anything, I was just standing in the hallway talking to a buddy and the SgtMaj called us to attention, pointed at me, said, 'you're next,' and marched me in."

SgtMaj A. R. Graham

SKYHOOK, RESCUE, MARINES... This horsecollar is a beautiful sight to a leatherneck who is floating around in the briny, or waiting rescue from the boondocks. It's a welcome sight especially because he knows there's a Marine Corps chopper on the other end. Having a rescue helicopter around is SOP with the Marines, and many a pilot has come back to fly again because the Corps takes such care of its own. Kaman helicopters have never graced Montezuma's halls, but they've been almost everywhere else... with the Marines.

PIONEERS IN TURBINE POWERED HELICOPTERS

THE KAMAN AIRCRAFT CORPORATION • BLOOMFIELD, CONNECTICUT

NUCLEAR DIVISION • ALBUQUERQUE, NEW MEXICO

By BGen Samuel B. Griffith, USMC (Ret) and John Erickson

ON SUNDAY, 27 October 1957, "Krasnaya Zvezda" (Red Star) official organ of the Soviet Army, briefly announced the abrupt dismissal of Marshal Zhukov from his position as Minister of Defense. This news, as surprising to the Marshal as it must have been to the readers of "Red Star" aroused intense interest in the West where it provided a subject for more than the usual amount of speculative comment.

Very few people can know the precise reasons for the sudden demotion and humiliation of the leading Russian Marshal, and those few do not speak. But of one thing we may be sure. This is that Zhukov and those closely identified with him were purged because the leadership found it necessary to assert as emphatically as possible its determination to reestablish the Party's control over the Army, a control that had gradually been slipping from its hands since the death of Stalin. To this process, Zhukov had given a powerful new impetus.

In the Soviet Union the Army equates to the defense establishment. The theory of equal partnership, or, as some in the West have defined it, "equality of rivalry," between the armed services does not exist. The military scene is completely dominated by the Marshals. Admirals and Air Force Generals are, in the scheme of things, very small potatoes; their names appear in the press infrequently; at official functions they occupy obscure positions in the rear ranks. The enforced retirement of half a dozen senior Soviet naval officers would cause no great stir. But when this fate overtakes the Number One Marshal of the Soviet Union, the answer must be sought in the political context.

The humiliation of Zhukov is not without precedent. In 1937 the political leadership decided that certain Marshals and Generals had become too powerful and were menacing the Party's role in the Army. These Marshals and Generals were shot, most of them after trials in which it is alleged they confessed to treason, espionage and other crimes against the State. Many were arrested one day, tried in secret the second, and shot the day after. No eye-witness of these trials has ever been produced. Voroshilov and Budenny are the only members of the tribunal that condemned Tukhachevsky who are still alive; naturally they will never talk. Alknis, Commander in Chief of the Air Force, "disappeared"; Bluecher had his day (or hour) in court in 1938 and vanished. Rokossovsky, Rodzimstev, Dovator, Petrovsky, Maslennikov, Jakovlev and Tolbukhin were relieved of their commands, arrested, threatened, beaten up and imprisoned.

Various estimates of the extent of this purge have been made; no one will ever know precisely how many officers were executed. Reports range from 25 to 35,000. Leonard Shapiro, citing Garthoff, states that of 5 Marshals, 3 were executed; of 90 Army and Corps commanders, 70 were shot. This wholesale slaughter of brass hats shook the Army to its foundations, but there was no revolt. The Army was brought to heel. And

in 1937 Tukhachevsky was esteemed in the Army no less than Zhukov would be 20 years later.

Purging under the Khrushchev dispensation is more suave than it was in Stalin's time, but results are the same; menaces to Party hegemony in any organ of the State (indeed, in any manifestation of national life) will not be tolerated. Formerly such menaces were silenced by bullets; now, in a more sophisticated manner, by demotion, public humiliation and exile. Undoubtedly the smaller fry who had hitched their wagons to Zhukov's star have either been stripped of their ranks and privileges and are looking for jobs in civil life or, if they are lucky, have been given positions of small responsibility and less authority.

Thus, Khrushchev successfully squashed an attempt by the High Command to assert a degree of authority within the Army, independent of the Party, for Zhukov's aim was to create in all echelons of the Army a loyalty to the Army rather than to the Party; to make the Army a non-political instrument, a national body whose first loyalty was to Russia. As a necessary preliminary to this end he had, shortly after becoming Minister of Defense, ordered an objective rewriting to the Stalinist military history of WWII in which the achievements of the Army and its commanders had been deprecated. With this project under way, Zhukov made a speech in Leningrad on 16 July 1957, in which he demanded that Molotov, Malenkov and Kaganovich be recalled to Moscow and brought to book "for their part in the 1937 crimes against the Army." This suggested that the rehabilitation of Tukhachevsky and his associates was imminent. On 10 August 1957 "Krasnaya Zvezda" (Red Star) published a detailed and wholly favorable biography of Bluecher. At the same time, Yegorov, Antonov, Bubnov and Gamarnik, all of whom had been shot or had committed suicide in 1937, were posthumously rehabilitated. Zhukov made it clear, too, that he did not intend to stop with re-writing Army history and rehabilitating Marshals and Generals. He went further, much further. He demanded the independence of the Army from "political interference and superfluous political instruction." Here he was on dangerous ground indeed.

It must have been shortly after this that the leadership made the decision to pull the rug out from under their Minister of Defense at the first opportunity. The opportunity was created; Zhukov was sent off to visit Tito. When he left for Belgrade on 8 October, he was Minister of Defense; when he returned on 26 October he was a Marshal about to be out of a job. When he landed in Moscow on that afternoon he could not have known that the decision to fire him had been made. Perhaps he heard the first announce-

BGen Griffith (left), prior to his retirement in 1956, served as: CO, 1st Raider Bn; Chief of Staff for TTU Lant and FMF Lant. He is now at Oxford University, reading for his PhD.

John Erickson (right) is a Lecturer in Russian & East European Studies at the University of St. Andrews, Scotland.

ment over his radio at midnight, or if he failed to listen to Radio Moscow, he probably, ironically enough, read of his new status in "Red Star's" edition of Sunday, 27 October.

In 1945, Soviet armies under the Marshal had blasted their way into Berlin. Behind them lay 4 years of indescribable suffering, a territory larger than the US east of the Mississippi River completely devastated, millions of casualties and an encyclopaedia of blunders in the fields of intelligence, planning, strategy, tactics and supply that has no parallel in history. But they stood victorious in Berlin. Behind them stood Stalin, the "Vozhd"—the Leader—the military "genius" who had made this triumph possible. Or so it was to be said, and so it was to be believed for 8 years by tens of millions.

As soon as he possibly could, Stalin began to remove his senior war heroes from the spotlight. Zhukov was relieved as Commander, Soviet Land Forces in November 1946 and was sent to Odessa; Rokossovsky was dispatched to Poland, and Chuikov, prominent in the defense of Moscow and the defender of Stalingrad, was exiled to an insignificant job. As Malinovsky was already in the Far East he was permitted to retain his command there. It was as if, after Potsdam, Truman had sent Marshal to Guam, Eisenhower to the Virgin Islands, McArthur to Nome, Ernie King to Keokuk and Hap Arnold to the Midway Atoll. Stalin's actions were effective; from the point of view of a Chief of Police the next best thing to eliminating the leaders of a gang of prospective troublemakers is to disperse them.

When he had cleared the decks, Stalin began to impose Party discipline on the Army, a discipline which had been removed early in 1942 when Commissars had been withdrawn from combat echelons in deference to the wishes of then irreplaceable Front, Army Group and Army commanders. True, political officers had remained, but they had no authority to countersign operation orders. Their function had been education and propaganda; that of Commissars had been executive.

This was not the first time in the relatively brief history of the Soviet Army that pressure from commanders had forced the Party to abate its control. In the early days of the Revolution, in the interests of military efficiency, Trotsky successfully demanded that Commissars be withdrawn from combat units of the Red Army so that its commanders could get on with the fighting without constant interference from political Deputies. Only after the last of the Allied troops were withdrawn, the Whites crushed, the Poles defeated and the political position of the Bolsheviki stabilized, was Party control re-imposed on command echelons. This the Army naturally resisted. (The policy was, for instance, violently opposed by Frunze, who was later murdered during an operation that Stalin suggested as necessary to "preserve his health.") But by 1932 the influence of the High Command had developed to the point where it was sufficiently powerful to force the Party again to curtail the activities of Political Commissars. This trend Stalin reversed in May 1937. One month later the Marshals and Generals were dead, and the Commissars back in the headquarters. Pendulum-like, policy in respect to Party relationship with the Army swings from one extreme to the other, never settling on dead center.

After Stalin had dispersed the most eminent of his WWII commanders and applied an effective muzzle to any who might be talkative, he set about regaining the prestige he had temporarily forfeited to them, and in the February 1947 issue of "Bolshevik" announced his version of a new and "progressive" military science, a science that "could not be matched by the West" which relied on a "decadent adventurism" in the field of military doctrine as in all others. There are, Stalin wrote, "five permanently operating factors in war." These he had listed in his "Order of the Day" of February 23rd, 1942, as:

a) Stability of the Rear
b) Morale of the Troops
c) Quantity and quality of Divisions
d) Armament of the Army
e) Organizing ability of Command Personnel

Now none of these factors can be considered particularly "progressive," original, scientific, or peculiar to any school of military thought. Everyone recognizes the absolute requirement for a high degree of political and economic stability on the home front in war time, just as everyone recognizes the importance of morale, of quantity and quality of troops, of effective armament and of the organizing ability of commanders. These factors were discussed by Sun Tzu almost 2500 years ago, and both Machiavelli and Clausewitz more recently devoted some attention to them.

This "new" theory propounded a strategy for the conduct of World War III which, in accordance with the requirements of the Marxist-Leninist dialectic, Stalin saw as inevitable. In this theory, atomic weapons had no "special" place. Stalin admitted that they produced a bigger bang, but a bang that he did not believe to be decisive. In the future Russia would, said Stalin, defend herself as she had against Napoleon and Hitler. Once again her vast emptiness would engulf the armies that came to destroy her; once again they would be defeated by "massive Stalinist counterstrokes," as the armies of the Fuehrer had been.

That most of the High Command did not subscribe to this appraisal of Western intentions—to say nothing of Western capabilities—was later to become abundantly clear. But during the years that Stalin's theories held the stage, the pages of the principal military journals were intellectual wastes, completely devoid of realistic discussions of the strategy of a possible future war.

Atomic weapons in both their strategical and tactical contexts were ignored; at the same time doctrinal and technical progress in the West was consistently deprecated. This, then, was the state of affairs on that night in March when Josef Vissarionovich Stalin died as a result of what was described as "hemorrhage of the brain."

Characteristically, Stalin had appointed no Marshals for years, but the relicts of WWII who were still around, took part in the battle for the succession. As soon as a degree of political stability was restored, they began to let a few cats out of the bag, and in the 24 March 1954 issue of "Red Star" there appeared an article by Tank Marshal Rotmistrov which demanded "more imaginative work on military theory." This opened the flood-gates, and soon the long-inhibited Marshals, including Chuikov, Vassilevsky and Bagryaman were airing their views. Significantly, none even mentioned Stalin's "new science," and although the "five factors" he had cited were accepted, critical examination led for the first time to some original thinking on the nature of a future war, and to an objective appraisal of the capabilities of the West. For instance, Colonel-General Kurochkin, the director of the Frunze Academy (which corresponds to the Armed Forces Staff College in the US) ventured in "Voennaya Misl" (Military Thought) to take up the question of "the enemy's mastery of nuclear warfare techniques."

At the same time other writers, specifically Generals Boltin and Talensky, began to point out that "surprise" had become *the substantive principle in a major war* and to stress that constant "vigilance" and "preparedness" were essential to national survival in any future war. Although the term "preventive war" was not used in these articles and speeches, their authors make it clear that "vigilance" consists of the ability to strike an aggressor before his blows fall on the Soviet Union. Basic to this concept, first stated in "Red Star," is the requirement that the mobile elements of the Army (and there are now over 80 armored divisions) survive the first 24 hours, and that they thereafter be able to plunge forward to defend the Soviet Union on foreign soil. This requires that the Soviet soldier be "reeducated," in particular that he be imbued with the "offensive spirit" so that he may effectively defend Mother Russia on someone else's territory. Here the Russians have a complicated psychological problem, for it is difficult to equate defense of Russia with an invasion of foreign territory before a blow has been struck against the sacred soil. Further, there is the question of how to relax controls on the Russian soldier so that he will feel free to think and act independently in combat. To achieve this, the Party has come up with the concept of "the independent-controlled man." That the meanings of these words are mutually exclusive is of no account; they must be (and no doubt will be) reconciled.

It is not yet clear why the Russian people were kept in ignorance of the annihilating effects of atomic and nuclear weapons until after Stalin's death, but it was not until 1956 that a crudely produced Civil Defense pamphlet "On Poisonous and Radioactive Substances" was publicly circulated. In this, it was for the first time made clear to the average citizen that there was no longer a "rear" in the classic sense, that any focus of communications, any political center, power-producing complex, industrial area or large city, was a potential target. The German invasion had forced industrial dispersion; recent decrees provide for decentralization of management. The genesis of these decrees—which were widely interpreted in the West as indicating a relaxation of Party control—is not to be found in any desire of the Party to relax its grip on managers. Rather, this decision was made in the light of the effects of nuclear weapons.

The developments just described were concurrent with a campaign aimed at de-emphasizing Stalin's political, cultural and military activities. Khrushchev's "secret speech" set the tone and a series of attacks on Stalin's conduct of the "Great Patriotic War" soon appeared in various journals. The purpose of these was two-fold; first, to reduce Stalin's stature and second, to glorify the role of the Party. For instance, in June 1956, "Voprosy Istorii" (Questions of History) informed its readers that Stalin, completely taken in by Hitler, had refused to believe in the likelihood of a German attack on the Soviet Union. In an article in "Voenny Vestnik" (The Military Herald) of April 1956, the Russians learned for the first time that practically the entire Soviet Air Force had been destroyed on the ground by the Luftwaffe in less than 48 hours, that morale in the "Front" armies had completely collapsed, and that millions of prisoners were bagged. On 19 July 1957, "Red Star" stated that the activities of the "one man command" in 1941—'42 left a great deal to be desired. All misfortunes can now be blamed on the Vozdh.

From the Army's point of view, attacks on Stalin's leadership were welcomed, but when these were coupled with glorification of the Party's role during the war they did not mark a significant advance toward the writing of what the Army considered an objective history—one in which it would receive the credit long overdue. It was precisely this that Marshal Zhukov proposed to have done. It is now highly improbable that any such history will ever be written.

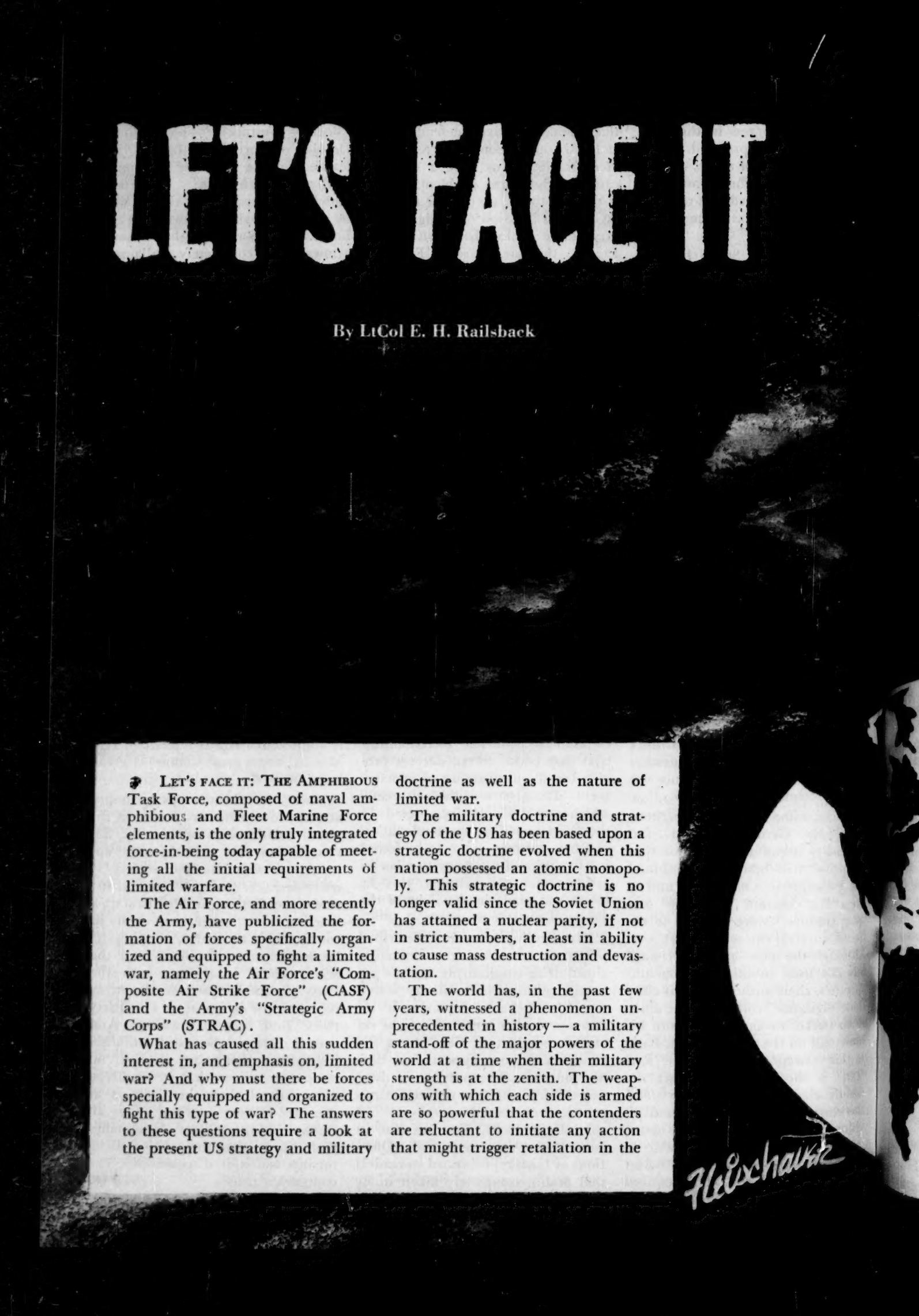
About a year ago Khrushchev attended a cocktail party at a foreign embassy in Moscow. Inevitably he was asked about the fate of Zhukov.

"We are finding him a position suitable to his talents," Khrushchev is supposed to have replied. "The Marshal was a great soldier—a great hero. But—"

This "But" always crops up in any attempt to cast up an account of internal relationships within the Soviet Union. A contemporary approach is that Russian society is composed of fissionable elements; that the only thing needed to start a reaction is, say, to place the Army in conflict with the Party, or with the Secret Police, or the Army and the Secret Police in conflict with the Party. In the last 20 years the Army has gone to bat against the Party twice. Both times it has failed. And even if it should succeed in establishing military hegemony there is no reason to believe that it would be more liberal than the Party is at present. History does not afford an example of a military dictatorship more liberal than the political dictatorship which it dispossessed. The contrary is true. USMC

LET'S FACE IT

By LtCol E. H. Railsback



LET'S FACE IT: THE AMPHIBIOUS Task Force, composed of naval amphibious and Fleet Marine Force elements, is the only truly integrated force-in-being today capable of meeting all the initial requirements of limited warfare.

The Air Force, and more recently the Army, have publicized the formation of forces specifically organized and equipped to fight a limited war, namely the Air Force's "Composite Air Strike Force" (CASF) and the Army's "Strategic Army Corps" (STRAC).

What has caused all this sudden interest in, and emphasis on, limited war? And why must there be forces specially equipped and organized to fight this type of war? The answers to these questions require a look at the present US strategy and military doctrine as well as the nature of limited war.

The military doctrine and strategy of the US has been based upon a strategic doctrine evolved when this nation possessed an atomic monopoly. This strategic doctrine is no longer valid since the Soviet Union has attained a nuclear parity, if not in strict numbers, at least in ability to cause mass destruction and devastation.

The world has, in the past few years, witnessed a phenomenon unprecedented in history — a military stand-off of the major powers of the world at a time when their military strength is at the zenith. The weapons with which each side is armed are so powerful that the contenders are reluctant to initiate any action that might trigger retaliation in the

form of a thermo-nuclear holocaust. This dilemma of the Nuclear Stalemate has recently been the topic of more discussion by political and military analysts than any other single subject in the fields of national strategy and military doctrine.

Our present foreign policy is still stated as the intent to meet any and all aggressions with all-out war. The next war then, according to this policy, and regardless of degree of provocation, will be an all-out nuclear war. This policy places complete reliance on the threat of massive retaliation by means of the Strategic Air Force as the major deterrent to all forms of aggression. However this has not prevented the communists from engaging in acts of aggression which were short of all-out war. Attacks, taking the form of wars of limited scope, the use of volunteers, subversion and political warfare have been initiated. These attacks seem to be carefully calculated to pose the problem of whether they provide sufficient provocation to warrant all-out war. These untraditional forms of warfare are just as capable of obtaining the goal of world domination as an overt act of aggression, and without the disadvantage of running the risk of mass retaliation.

Our hesitancy to recognize these attacks as acts of aggression has been summarized by the following statement in Dr. Kissinger's book, *Nuclear Weapons and Foreign Policy:* "The dilemma of our postwar policy can be described as the quest for the 'pure' case of aggression, in which our military doctrine, the provocation, and our principles would be in harmony." This hesitancy to identify a "pure" case of aggression stems primarily from a reluctance to proclaim the more subtle forms of aggression as being sufficiently provocative to warrant a resort to all-out war.

The *Rockefeller Report on the Problems of United States Defense,* has this to say concerning the threat of limited war: ". . . we cannot expect to counter limited military challenges by the response appropriate to all-out attack."

From the above statements, it appears that the answer to this dilemma lies in two areas. The US must first clearly define the limits of its political and strategic objectives; and secondly, maintain a military force capable of carrying out these limited objectives without starting a chain reaction that might bring about an all-out nuclear war.

Although our stated policy still recognizes only all-out war, a change in viewpoint has been expressed by high defense and administration officials, based upon the premise that neither side can afford to risk a nuclear exchange. If this premise is sound then it can be anticipated that the next armed conflict will be of the peripheral or limited type.

In support of this contention, the history of armed conflicts since 1914, shows that there have been 2 all-out wars and 37 of the limited type. Since 1945 there have been no all-out wars, yet during this same period there were 14 limited wars. Another factor to be considered is the increase in commitments that the US has made through NATO, SEATO and other agreements. These ties increase the probability of our being involved in another armed conflict.

It then appears that not only are the chances greater that the US will be committed to another conflict but also that the nature of this conflict will be a "brush fire" type of war fostered by the USSR and carried out by one of her satellites or by "volunteers." This type of warfare, however, can only remain limited so long as both protagonists maintain a strategic parity. The instant that Russia obtains a significant superiority in her strategic striking capability, then the environment that fosters the limited war will have disappeared. This then focuses attention upon the requirement to retain a strong retaliatory force which must keep pace with new developments in equipment and techniques. The inter-continental ballistic missile and anti-missile missiles are examples of the advancement in weaponry that the strategic retaliatory force must achieve in order to keep pace with Russia.

Briefly stated, the nuclear stalemate has established requirements for an effective strategic retaliatory force and a *force-in-readiness* capable of timely and decisive commitment to a peripheral or limited war.

The US now finds itself faced with the problem of maintaining a defense establishment capable of fighting 2 kinds of war and, at the same time, obtaining the maximum in national security for the money provided. Fortunately some forces can be effectively employed in both kinds of war, however this does not mean that all forces tailored to be effective in one kind of war, are necessarily equipped to produce decisive results in another. For example, the Strategic Air Command, its training and equipment, is not readily adaptable to employment in a limited war, besides it would be sheer folly to commit our deterrent force to an operation that could only mean the dissipation of the force that maintains the thermonuclear balance of power.

Associated with this example are other forces that provide additional deterrence to all-out war; i.e., the forces assigned the mission of defense of the US against air attack: the Continental Air Defense Command. Some of these forces have neither mobility nor capability of operation in a limited war; others have varying capabilities and degrees of mobility; however, regardless of their capabilities, these forces must be maintained at full strength and readiness, to meet the demands of an all-out war. The threat of all-out war effectively commits these forces to one kind of war to the exclusion of any other possible employment.

LtCol Railsback was commissioned in 1942 and served extensively as a fighter pilot during WWII. Among many assignments following WWII, have been: 3d MarDiv Air Officer; Organization and Progress Officer, G-3 Section, Division of Aviation, HQMC. He has attended Junior School, the Armed Forces Staff College and holds a Master's Degree in Education from Arizona State College. At the present time he is Chief, Air Section, T&T Board, MCLFDC, MCS, Quantico.

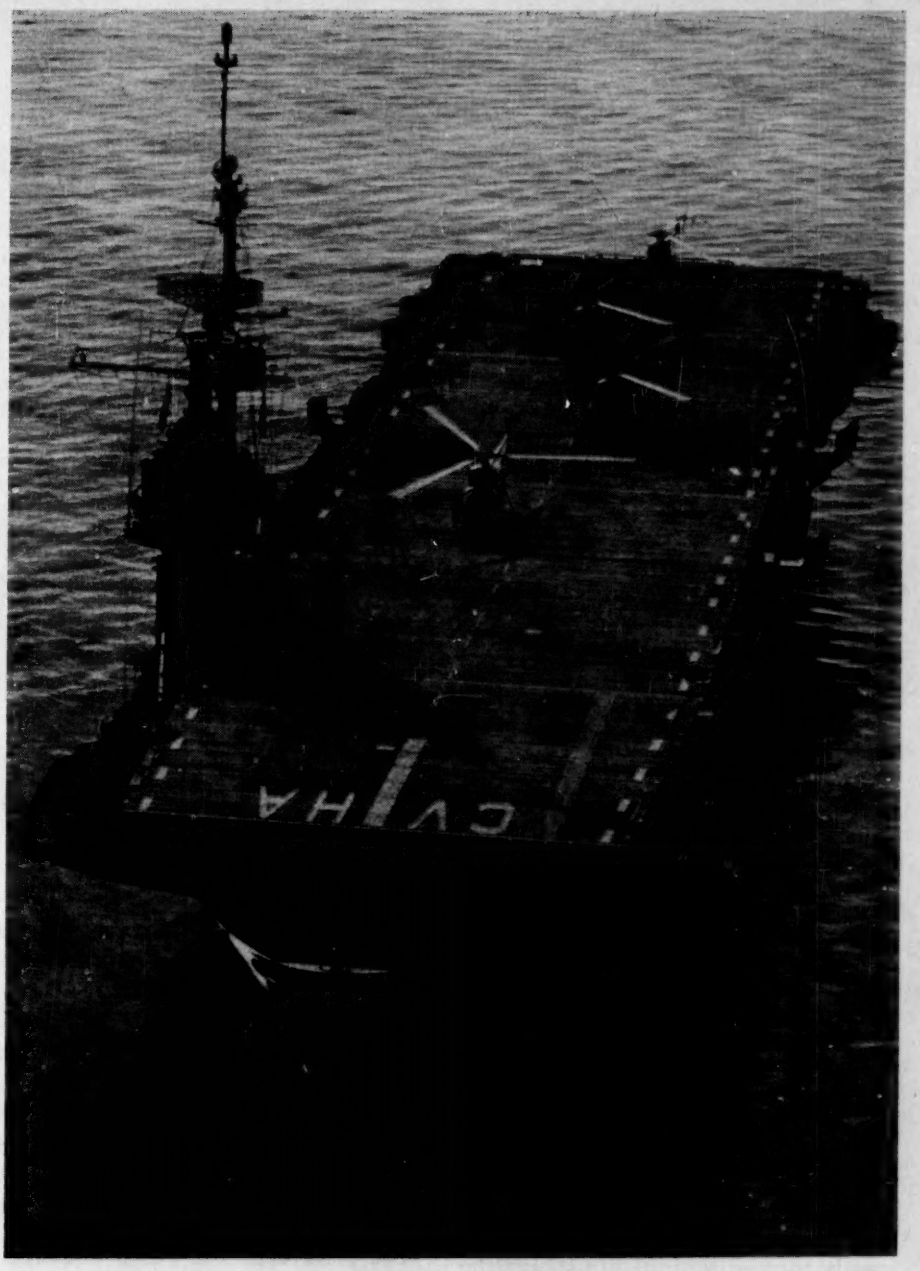
Types of Wars

Before a discussion can be initiated concerning the nature of the forces required and the ability of the present Armed Forces to fulfill the requirements of all-out as well as limited war, it is necessary to visualize, as best we can, what conditions will most likely prevail in these 2 types of warfare.

The strategic mass-retaliation type of war has been well defined and continually evaluated and there exists a pretty clear picture of what phases and conditions it will include. The US has expended a tremendous effort and vast sums of money to provide a capability to fight this kind of war. We have already spent billions of dollars, and we will be forced to spend many billions more, to provide the missiles and other weapons required to keep the strategic forces up to date. The source of the threat of all-out war, and the conditions under which this type warfare will be conducted, are well defined and will not be discussed here.

The limited war enjoys no such sharply focused picture. Its conditions, threats, location and weapons are not readily discernable, nor has as much effort been expended in studying the conduct and problems of this type of war. There has been little conscious or concerted effort, until recently, to provide the equipment and forces specifically designed to fight this kind of war. However, President Eisenhower in his State-of-the-Union message to Congress on 9 Jan 1958, had this to say about forces to fight the limited war: "We must maintain all necessary types of mobile forces to deal with local conflicts, should there be need. This means further improvement in equipment, mobility, tactics and firepower."

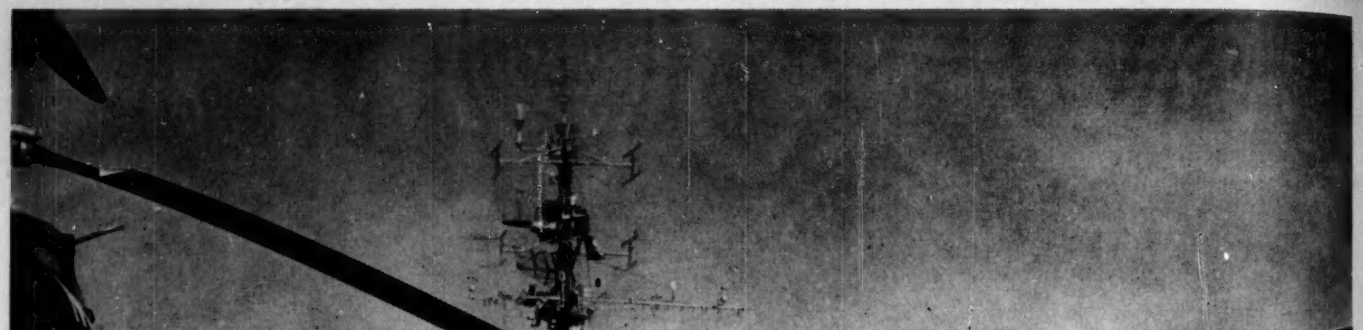
In order to provide a better understanding of the requirements posed by the limited war, it is necessary to determine the specific nature of this type of warfare. In fact, the very name applied to this type of war describes one of the first considerations. The forces involved will be small at the outset. Although the Korean action has been used to prove almost any theory or contention, it still remains as the most probable situation and perhaps the pilot model of the type of conflagration that the USSR will continue to build, to accomplish her ends. It can be expected that even though this war may start with the engagement of relatively small forces, these forces will build up in size and capabilities. Obviously it is to our advantage to counter any move of this nature at the earliest possible moment, and with forces capable of producing decisive rather than merely token results.



USS Thetis Bay — CVHA-1

The aggressor forces, be they units of a satellite nation or "volunteers", are likely to be equipped with the most modern of ground weapons and supported by modern aircraft. These forces may very possibly have a tactical nuclear weapon delivery capability. Before unleashing the satellite or "volunteer" forces, the USSR will assure that they do not lack for equipment or support.

The next subject that should be discussed concerning this particular species of war is its habitat or locale. What will be the most probable future location of this type of war? One of the factors determining this consideration is the requirement for secure routes of communication between the Soviet Union and the area of conflict in order to provide the necessary support. As evidence of this contention you are referred to the critical areas that have cropped up in the past few years. Newspapers were recently full of the serious threat in Lebanon, Jordan and Syria; even more recently—Quemoy and the Matsus; a few months



20 minutes from the beach

ago in Egypt. Before that, it was Indo-China and Korea. What do these areas all have in common? They are areas that lay on the periphery of the Communist Bloc. Routes of supply and communication connect these areas of conflict with the communist countries fostering and supporting the aggression. The areas selected for communist activity frequently will be those where newly formed nations are struggling for recognition, or where peoples are in the grip of intense nationalism in defiance of colonialism. It is also likely that there will be few, if any, NATO, or Western forces in the immediate trouble area. In other words, the area selected by the communists for the scene of the aggression or subversion will be an area with few effective military forces. The USSR will not run the risk of all-out war, which will surely prevail if the communists attack one of the NATO nations.

One of the more important points to be remembered in this discussion of the most probable type of location for the limited war, is that the communists will have the advantage of being able to select the site. Needless to say, the site selected will provide the greatest advantages to the aggressor and the most difficulties to the opposing forces. It is obviously an impossible task to predict whether or not there will be another limited war or attempt to pinpoint its exact location, but if a limited war does occur, the political and military characteristics of the area will include many, if not all, the points discussed above.

The Nature of the Force Required To Fight the Limited War

Some of the characteristics a force must have in order to effectively fight a limited war are listed below, and represent those attributes which are directly responsive to the characteristics of this type of warfare.

First, the force must be highly *mobile,* and capable of employment anywhere in the world.

Second, a *ready force.* Must be a force in being capable of movement in an extremely short time. (There will be no time to mobilize).

Third, a *balanced force.* Must be capable of providing all the weapons and combat support required to successfully counter the threat.

Fourth, a self-sufficient force. A force capable of sustaining itself logistically for a considerable period of time.

Fifth, a *flexible force.* Capable of fighting not only a war of high explosives, but also capable of engaging in combat wherein tactical nuclear weapons are actually used or exist as a threat.

A factor which must also be considered in any discussion of the force which will be required to fight the limited war, is how *large* a force is required. Without engaging in a lengthy discussion, it is obvious that it is impossible to predetermine the size of the force which will initiate the aggression. It is also obviously uneconomical to maintain a force large enough to meet the largest force that the communists could possibly muster and in addition provide adequate transportation for the requisite degree of mobility. So it then becomes a matter of a compromise between the size of force we would like to have and the size we can budgetarily afford and endow with the desired mobility. Whatever the size, it must have the ability to produce *decisive*—not merely token—results. George Fielding Eliot's article, "The Army and Strategic Mobility," (*Military Review, August '57, Volume XXXVII Number 5*) stated the problem as follows:

"Time may well be of great im-

portance both in deterrence and actual intervention. Deterrence will hardly be effective if the enemy can calculate on presenting us with a *fait accompli* before we can get to the spot with the type of force needed to thwart his purpose; while the timely arrival of a comparatively small force may be of greater value, morally and physically, than the belated arival of a much larger one."

If this force cannot be large enough to successfully engage and defeat any possible enemy force, it then should be organized and equipped to provide a core or nucleus around which augmentation forces can be added when required. In other words, it should be an augmentable core containing a balanced cross-section of all the weapons necessary to efficiently and decisively engage the aggressor forces. It must be able to counter the aggressive acts of the Communist Bloc, bringing to bear the weapons required in the minimum of time. It must be able to carry out combat operations with the forces available or be able to hold until the necessary augmentation forces can arrive in the combat zone.

The British Royal Marines have been, and are being, organized into just such a force. As an indication of the importance attached to this force is the fact that they are the only portion of the British Armed Forces that will be expanded under the "White Paper."

Now that some of the basic characteristics, which must be inherent in this force, have been established, let us take the Armed Forces presently in being in the US and evaluate their capabilities to fulfill the requirements of limited warfare.

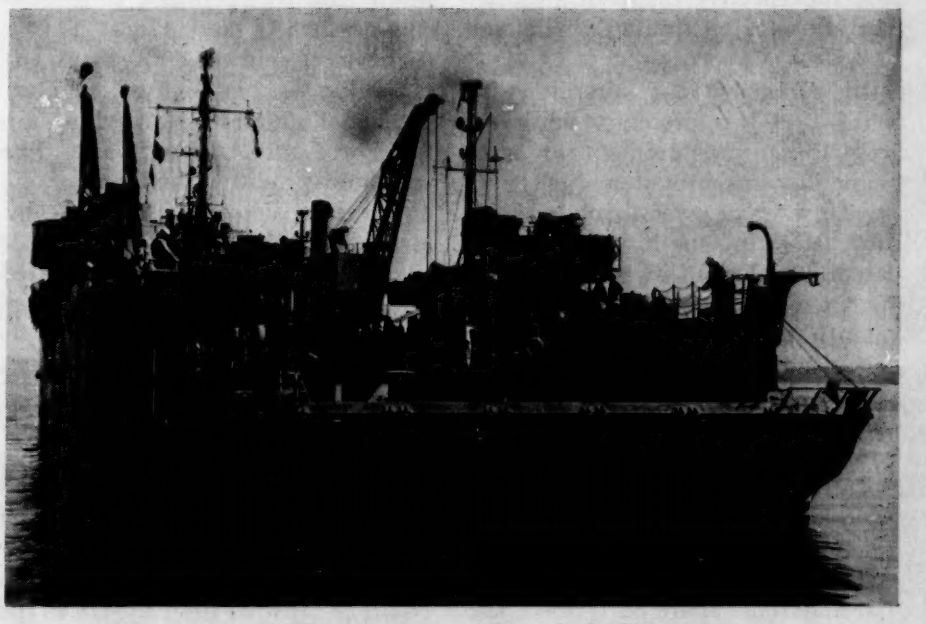
Capacities of Existing Forces To Fight a Limited War

The primary emphasis within the Air Force has been placed on the Strategic Air Command. This is not a criticism of Air Force doctrine, as this emphasis is amply justified, not only by law, but because at present SAC is the primary deterrent to all-out war. This force must be maintained intact at all times and should not be committed to participation in wars of limited scope.

The Air Defense Command is one of the functional commands within the Air Force that has the mission of fighting the all-out war. The Air Defense Command is a part of the deterrent forces which are required to assure that any attempt to launch an all-out nuclear attack against the US will face unacceptably high attrition rates.

The emphasis placed on the SAC and ADC functions has demanded the major portion of the efforts and a large part of the budget of the Air Force. This situation has caused relatively minor efforts to be devoted to the forces that would be expected to fight a limited war. The Tactical Air Command is the functional component of the Air Force that logically should provide the theater air forces to fight a limited war. This requirement has been recognized by the Tactical Air Command and in answer the Composite Air Strike Force was born. This is a miniaturized version of a tactical air force which takes advantage of the now commonplace air refueling capability to deploy its fighters and fighter-bombers in a minimum of time. The basic organizational concept is the formation of a command that can plan for the deployment, employment and training of the CASF, and finally to command it in combat. Squadrons will not be attached or assigned to this command until the need arises. Then the CASF will be task organized to fit the particular situation. The Nineteenth Air Force has been activated to fulfill this mission. This force bases its primary capability to defeat an enemy in a limited war, upon the ability of its fighters and fighter-bombers to deliver tactical atomic weapons. This is an important potential. There are, however, factors that impose certain limitations. First of all there does not seem to be sufficient emphasis presently applied to the fulfillment of this requirement and it therefore follows that monetary support will probably be on an austere basis. Secondly, it may not be to the best interests of the US to initiate even limited nuclear war with so-called tactical atomic weapons. For instance, how could they have been used in the Middle East crises?

Another factor is even more basic, the lack of flexibility imposed by the requirements of this Composite Air Strike Force in the way of air bases, facilities and supplies. The aircraft with which TAC is currently equipped, and to an even greater extent those programmed for the future, are high performance aircraft requiring long, hard-surfaced runways, large quantities of fuel and, due to the highly technical nature of the equipment, many items in the way of spare parts and maintenance equipment. The fuel and material must all be transported to the area of combat or be already stockpiled at the airfield site. This is expensive in that tremendous stocks of critical



LSD prepares to launch LSU

items and fuel must be maintained at numerous overseas bases. The air transport requirement, as an alternative to strategic stockpiling, would also require an expensive, heavy and sustained air transport capability. In a non-nuclear war the ordnance requirements laid on in addition to the fuel requirements would overtax the air transport capability of the nation.

The Composite Air Strike Force is intended to be utilized in either a purely air effort or in conjunction with other forces. The first employment makes the assumption that an air force is capable of winning a war by application of air power alone. This contention has yet to be proved. The second and more probable employment requires another force with mobility comparable, or equal, to that of the CASF, for example the Army's STRAC. This capability will be covered in the discussion of the other Armed Forces.

A final factor is that the present policy of maintaining overseas bases in friendly nations is encountering considerable difficulty, since these bases would become primary targets in event of all-out war. The reluctance of peoples to provide inviting targets in their homeland is understandable, and this poses the Air Force with increasing problems in attempting to maintain these highly important sites. Even if the Air Force is capable of holding on to the bases it already has, there are vast areas of the world in which a limited war could be fought well outside the effective range of such air operations as continuous air defense and close support.

In summary, the aircraft with which TAC is presently equipped and those programmed for some years to come are of a high performance type, requiring airfields 10,000 feet in length and hard surfaced to withstand high wheel loads. Unless fuel is already stored in great quantities at airfield sites, TAC would not be able to operate without logistic support from other sources. It is conceivable that fuel could be flown in by means of transport aircraft, however this effort would demand a considerable portion of the airlift capability of the Air Force. And what of other essential materials? Spare parts, food, and the multitude of other things necessary to today's highly technical machine of war.

Finally, the emphasis presently placed on the maintenance of SAC and ADC in a constant state of readiness, at the expense of the other functional commands of the Air Force, leaves little money for the Tactical Air Command.

The classic employment of the Army in extended land campaigns has established the requirement for heavy weapons and tremendous logistic capabilities associated with this type of warface. Recognizing the requirement for a highly mobile force to fight the limited war, and the relative immobility of a conventional land army, the Army has been publicizing the establishment of a ready airborne force (STRAC) as well as other streamlined units which are air transportable. The mobility characterized by the airborne and air transported forces of the Army is dependent upon the availability of air or surface transportation from outside sources. The Army, having no strategic air transport capability, must rely upon the Air Force to provide this type of strategic air lift. The remarks made concerning the priorities assigned the functional commands of the Air Force applies here. The slashes in the military budget which have already been made, and whatever the budgetary limitations of the future may be, will be reflected in the allocation of funds within the respective Armed Forces. The Air Force understandably places the major portion of the allocated funds into the primary functional commands SAC and ADC. This is then reflected in the strategic air lift capability as high-lighted by Congressional queries addressed to top Air Force and Army officials. The testimony produced the figure of one airborne division as being the present airlift capability. However, under further questioning, it was admitted that it would be impossible to logistically support this one division by air. George Fielding Eliot illustrates this point as follows:

"Translated into terms of troop-movement capability within time limits measured in days, the situation is not very promising. Using practically all available air lift (an optimum assumption) one division could be airlifted from the US to the Middle East in 21 days. This is the so-called 13,000-ton division—that is, a 'division force' including extra service units and with six days of supply". And further:

"The maximum *normally available* airlift capability could lift no more than a 5,000-ton division—combat elements only—which means that such a movement could be effective only if made to an area where base facilities already exist, for example Germany."

The other alternative, that of surface lift by MSTS or Naval shipping, presupposes the availability of this shipping when the whistle blows. It is possible that the Navy's amphibious lift could be utilized to transport Army units, however the efficacy of such a move is subject to considerable doubt. There are several restrictions that may preclude the use of portions of this shipping for the transport of Army units. For example, the present employment of amphibious shipping to provide surface lift for Marine units as part of the theater reserve, both in the Pacific and Atlantic, would probably dictate against its availability. The unpredictable availability of MSTS bottoms does not provide an acceptable basis upon which the Army could depend for the lift of a "ready force." Another restriction stems from the from the fact that all Army helicopters are not configured for operation on the planned helicopter carriers. Thus it becomes apparent that the Army cannot count on the necessary mobility required of a ready force.

The Army can be, and has been, employed in limited wars; i.e., Korea and Lebanon. However, the Army's responsibility for the maintenance of a broad mobilization base is a primary requirement that takes priority over all other capabilities. This is not a criticism of the basic Army organization, but a recognition of the requirements for depth and broad mobilization that must be the basis upon which the Army operates. Preoccupation with the provision of this mobilization base naturally has its effect upon the attainment of a readiness capability.

Another factor to be considered is the recognition that any true readiness capability, in the final analysis, must include an amphibious capability. No other mobile force possesses the ability to meet the initial requirements of a ready force and in

addition retain a capability for sustained combat. An efficient and effective amphibious capability can only be maintained through assignment of forces specifically to this task and then the execution of a continuous and rigorous training program. This requires the complete integration of the Landing Force with the Navy, and the Landing Force must accept a subordinate role during the course of an amphibious operation.

The role which the Naval forces play in the deterrence of communist aggression is far more diversified and varied than that in which either the Army or Air Force engage. Naval forces must be capable of not only fighting a purely deep-sea war but, they must be capable of fighting limited land warfare associated with the furtherance of control of the seas, and provide such air power as may be required.

In order to meet the requirements facing a modern day Naval force, the Navy has developed and adopted the "balanced fleet" concept. Thus, cognizance has been taken of the many-sided requirements presented by modern war.

The Navy has certain recognized responsibilities for the deterrence of all-out war. It must maintain a capability, utilizing carriers and missile launching submarines, to strike strategic targets of naval character which pose a threat in event of all-out war—not the least of which are those facilities and equipment associated with the ever-growing Soviet submarine threat. This threat also requires a continuing and diligent effort to maintain adequate anti-submarine defense capabilities. In addition to these functions, the Navy participates in the defense of the continental US through maintenance of seaward extensions of the DEW line over contiguous ocean areas. However, the Navy, unlike the Air Force, is not required to expend the greater portion of its efforts in maintaining this strategic deterrence to all-out war, also those forces which do have a strategic role are equally useful in limited war and provide an essential portion of the capabilities of the Amphibious Forces. This Navy/Marine Corps Amphibious Force possesses the mobility, versatility and organizational flexibility (task organization) necessary to provide a spectrum of capabilities that can be applied in such combination as may be required to accomplish limited objectives. The capabilities of this force are well recognized and have been accepted by the Joint Chiefs of Staff, as evidenced by the positioning of Navy/Marine Corps Amphibious Forces in strategic positions; i.e., the placing of a Marine Division and a Marine Air Wing along with the necessary Navy Amphibious Forces in the Far East, and the maintenance of Navy/Marine Forces in the Mediterranean.

On the beach

The Navy's adoption of the balanced fleet concept has assured the apportionment of forces to meet the threat of *both* types of wars; and, with the typical flexibility inherent in this type of organization, a force can be quickly task organized to meet any specific threat.

So far, this discussion of the capabilities of the Naval forces has dealt in generalities. Let us now compare their capabilities with each of the required characteristics discussed earlier. The Navy/Marine Corps Amphibious Force has the requisite strategic mobility within its organization as represented by the amphibious shipping, the aircraft carriers and the combined in-flight refueling capabilities of both the Navy and the Marine Corps air components.

This Amphibious Force is capable of putting ashore a Marine Air/Ground Force that has a flexibility and tactical mobility comparable to the airborne forces of the Army due to a helicopter lift potential provided by the Marine air component. The Amphibious Force stands today as a ready force in every sense, and is frequently deployed to strategic positions throughout the world. The Amphibious Force represents a cross section of the weapons of modern warfare, including nuclear, and is capable of providing its own support logistically. In addition, the Navy's carriers eliminate the requirement for 10,000 foot runways for air support during the initial phase of the operation. The Marine Corps air component adds to this flexibility by being prepared to operate ashore from existent airfields or to establish and operate from tactical airfields which feature catapult and arresting devices. Along with this operational capability, the Marine Corps' developed Bulk Fuel Handling System and the Tactical Airfield Fuel Dispensing System provide an answer to one of the major logistics problems associated with air operations ashore. Thus it becomes apparent that the Amphibious Force has the distinct advantage of not being dependent upon established overseas bases and airfields.

It appears that the Navy/Marine Corps Amphibious Force meets all of the characteristics of a limited war with the following possible exceptions:

The question as to whether or not

this Amphibious Force is large enough to cope with a limited war. The balanced force of 3 Marine Division/Wings, or in some situations a smaller balanced one, will provide an organization capable of defeating many of the forces initially involved in limited wars of the recent past or would be capable of holding until augmenting units could arrive.

Another point that might be considered as a limitation of the Amphibious Force is its strictly naval character. Since this force is primarily naval in character, it is capable of operating over only those land areas which are contiguous to ocean or sea areas in which ships of the US Navy can operate. However, a glance at the map will quickly show that the major portions of the peripheral territory of the Communist Bloc nations are well within striking range of the naval forces and, with the new flexibility provided by the helicopter assault, air/ground forces can be landed in almost all areas in which the communists might choose to start a war.

Perhaps one of the most frequently stated disadvantages of the Amphibious Force is its slow reaction time (that is the time required for the water-borne force to arrive in the objective area). This is not a statement based upon fact. Forces capable of *sustained combat* can be more quickly and surely landed in most parts of the world by naval forces than by any other means. Again, the strategic positioning of Amphibious Forces increases this speed and advantage. This means is currently being employed in the Middle and Far East.

In the preceding discussion of the capabilities of the present forces to fight a limited war, the fact has been pointed out that the Air Force and the Army are not well suited for the all-important initial actions in such operations. In the case of the Air Force, there is no possibility of its being able to physically occupy territory. As Mr. Eliot expressed it in his "Army and Strategic Mobility":

"The future ability of the United States to deter communist aggressive enterprises of local character will be dependent on our known ability to intervene promptly *on the ground* and our ability to defeat such enterprises, if actually undertaken, will be based on the prompt arrival of ground forces capable of affording protection to the threatened area and its inhabitants."

In the case of the Army, it is primarily a matter of strategic mobility. The suggestion that the necessary degree of mobility be provided by strategic air lift certainly cannot be considered as economical. It would require the building of a fleet of extremely expensive aircraft. The clincher in this is the inherent inflexibility imposed by the airfield requirements of these gigantic aircraft. The formation of a joint force, composed of Air Force and Army units; i.e., CASF and STRAC, would require the building of a strategic air lift capability of staggering magnitude. The time required and budgetary limitations legislate against this proposal being adopted as the logical answer to meet the limited war requirements. This then leaves the Navy/Marine Corps Amphibious Force as the only force which meets all of the initial requirements of this kind of warfare and is capable of accomplishing those things which *must* be done *first*. Improvement of the Amphibious Forces potential and capabilities to perform these initial tasks will in turn improve the capabilities of the CASF and STRAC to accomplish their primary roles. Augmentation of the Amphibious Force by CASF and STRAC units will in most cases be necessary, but the nucleus around which the force should be task organized to fit the threat, is the existing Navy/Marine Corps Amphibious Force.

Today the limited war poses as great a threat as the all-out war, as far as ultimate results are concerned —world domination by communism. Therefore, equal weight and urgency should be applied to the provision of adequate means to meet these threats. Up to the present, primary emphasis has been placed on strategic deterrence of all-out war. We must now determine the best and most economical means available to meet the limited war threat *today*. To build a strategic air lift of the magnitude required, as stated before, is uneconomical, and also will require a number of years to produce. There are ships available today that, at relatively little cost, could be demothballed and rehabilitated.

If the Strategic Air Command feels it is necessary to keep one-third of its force airborne at all times, then do we not need an Amphibious Force of such size that one-third of the force could be deployed continuously? At the present time the amphibious shipping in service cannot meet this continuing requirement to lift one-third of the Fleet Marine Force. We need to strengthen the capabilities of the Navy/Marine Amphibious Force to meet the threat of limited war. USMC

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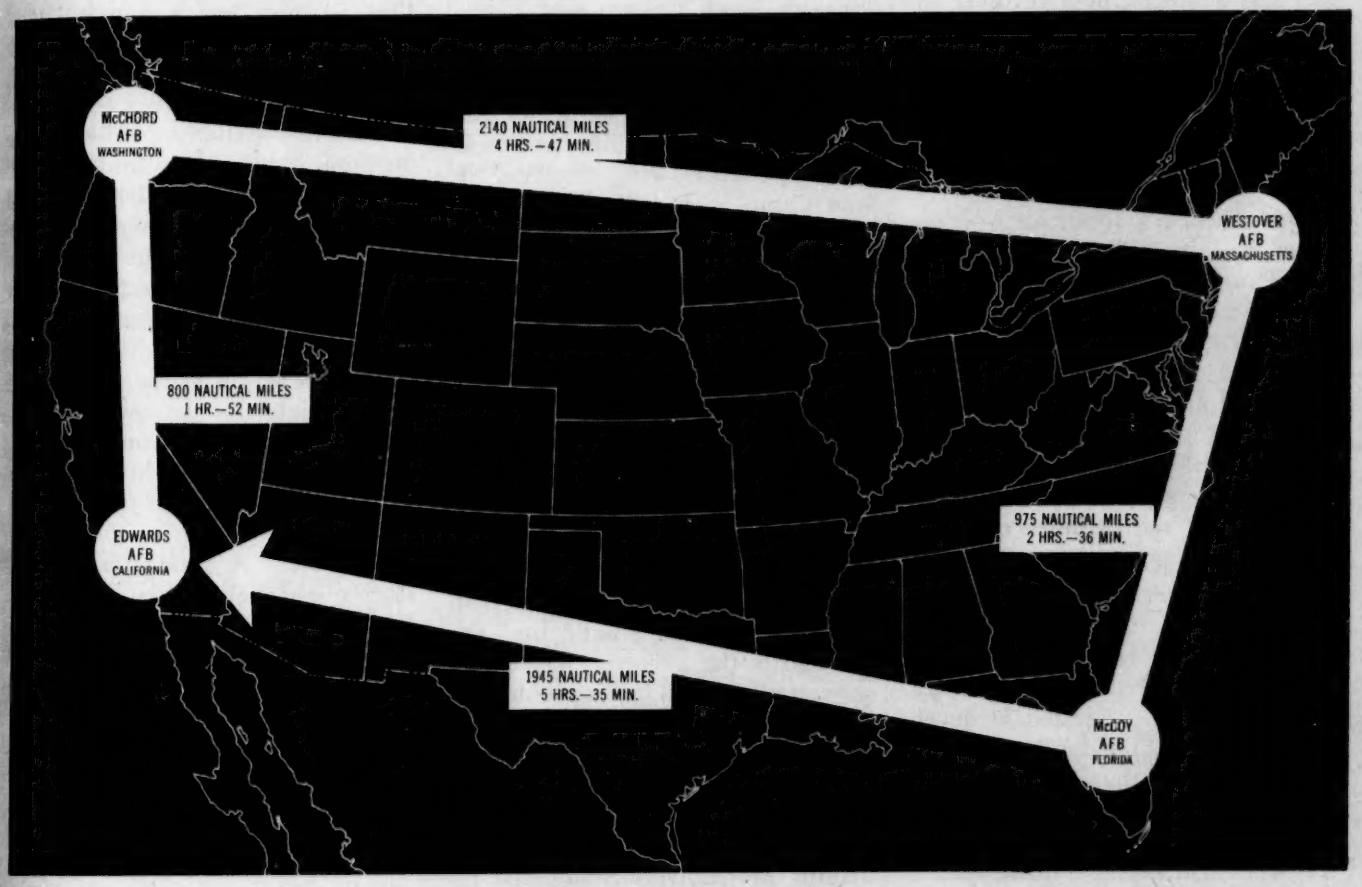
McCHORD AFB WASHINGTON
2140 NAUTICAL MILES 4 HRS.—47 MIN.
WESTOVER AFB MASSACHUSETTS
800 NAUTICAL MILES 1 HR.—52 MIN.
EDWARDS AFB CALIFORNIA
975 NAUTICAL MILES 2 HRS.—36 MIN.
1945 NAUTICAL MILES 5 HRS.—35 MIN.
McCOY AFB FLORIDA

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OBSERVATION POST

SIX-SHOOTER

MCSC, BARSTOW, CALIF. — I am quite sure someone will write the editors in rebuttal to Capt Haslam's article (GAZETTE: Aug. '58) recommending that the Armed Forces consider the adoption of a revolver as the service sidearm. I am here to defend the revolver by mentioning a few more advantages that only limitations of time and space prevented Capt Haslam from mentioning in his article.

Capt Haslam's thesis that a revolver can be developed to fire the 9mm Parabellum cartridge is correct. All important makers of sidearms now market revolvers chambered for the .357 Magnum cartridge. Modern metallurgy makes it possible for the cylinder of a weapon chambered for this caliber to be no bulkier, when chambered for 6 rounds, than the cylinder of a .45 six-shooter.

Before further consideration of a revolver for the 9mm cartridge, we should consider characteristics that must be considered by any individual or company interested in developing a revolver for the Parabellum. Besides the fact that this round develops tremendous pressure for a handgun, the 9mm Parabellum differs from all cartridges made specifically for a revolver in that it is a rimless, crimpless, straight-sided cartridge, as is the .45 ACP, our present service round. Since both Smith & Wesson and Colt make a revolver chambered for the .45 ACP, most of the problems of headspace and extraction of a cartridge of this type have been solved.

Capt Haslam stated correctly that one of the advantages of the revolver is that it can fire ammunition so deteriorated that it would be hard put to develop enough pressure to work recoiling parts. A corollary of this thesis is that ammunition for use in the revolver can be purposely loaded with less powder and lead than the full service load. This would allow the shooter to practice shooting his weapon with the same feel, weight and trigger of the full service charge and without the heavy recoil inherent in the higher octane loads. Since most Marines have their first experience with firearms in Boot Camp, it is logical to assume that the chronic bucking and flinching that afflicts most run-of-the-mill pistol shooters could be prevented by letting the neophyte get his start using a weapon with a light recoil.

Even the most rabid revolver booster will admit that the second cylinder of a revolver cannot, at present, be reloaded and fired as quickly as the second magazine of the autoloader. If we discount that advantage, under the premise that we do not contemplate "laying down a base of fire with a handgun," the man with the revolver has a fast enough weapon. The six-shooter has the added advantage that the weapon will fire 6 rounds with a faulty extractor — this can't be done with the automatic.

As an aid in faster loading and reloading of revolvers chambered for the .45 ACP, 3-round clips for this rimless, crimpless, straight-sided cartridge have been in use since 1917. These clips enable the shooter to load 3 rounds at once. The clips fit over the rear of the extractor, assuring positive extraction. The only modification necessary to make a clip for 9mm Parabellum would be in size. Admittedly clips can be damaged by rough handling as easily as the magazines of an autoloader. However, the revolver can still function as a repeater even without clips, while the self-loader, without its magazine, is a single shot.

The cylinders of revolvers chambered for the .45 ACP have a sharper step than the revolvers chambered for cartridges with rims. This step fits the end of the uncrimped case, preventing the cartridge from going forward in the chamber. This automatically adjusts headspace.

The lightest revolver of modern design on the market today, in a .357 Magnum caliber, is the "Combat Magnum" made by Smith & Wesson. This weapon has a 4-inch barrel and weighs 35 ounces. A lighter weapon than this, if one is desired, would be a model with a 4-inch barrel and of Parabellum caliber since the 9mm is a shorter round than the Magnum. This shorter length would make a shorter cylinder possible, reducing the weight of the weapon by a few ounces and also making the 9mm weapon shorter than the .357.

Before striving for "lightness of weight for its own sake," remember that "weight for its own sake" is useful at times. Anyone who has fired Lugers or P38's in 9mm Parabellum knows that this cartridge imparts a hefty wallop to the hand of the shooter. A good size hunk of steel might help soften the kick a bit, and a healthy piece of steel is less liable to be affected by wind than a peashooter. Another point in favor of "weight for weight's sake" is that any weapon meant to be used as an infantry weapon must be sturdy enough, yes, heavy enough, to be used as a club when the shooter is out of ammunition. A service pistol must be sturdy enough to beat a man to death with and still be capable of being fired after the shooter has acquired some more ammo.

It is the belief of this writer that a revolver of the design of the heavy barrel Smith & Wesson .357 Magnum caliber weapon, or the Colt "Python" in 9mm Parabellum caliber, would be sturdy and light enough to be carried comfortably. It would, in other words, be a good service revolver.

1st Lt T. G. Lee

★

The GAZETTE will pay $15.00 for each letter published in the Observation Post

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RANK STRUCTURE

MCRTC, MIAMI, FLA. — In the recent past it has become increasingly apparent that the Corps' enlisted rank structure is greatly in need of an overhauling. First break in this occurred when the time-honored, and eminently essential, ranks of first sergeant and sergeant major were reinstituted. The billet of gunnery sergeant is a well used one, and many a technical sergeant is known to his troops as the "Gunny."

Whether we are willing to admit it or not — and there are many of all ranks who are not — the Corps is composed of line men and technicians. Ideally, a rank structure should provide both visual and oral distinction between these 2 basic groups. The Army and Air Force designations of "technician" are not palatable to Marine tastes, and the Navy and Coast Guard "mates" are not the answer. There must be a retention of recognizable military rank designations which at the same time will say what they are supposed to say.

Therefore, in the line, let us switch to the following ranks: E-1, private; E-2, private first class; E-3, lance corporal (let's consider him a probationary NCO); E-4, corporal; E-5, sergeant; E-6, platoon sergeant; E-7, gunnery sergeant; E-8, first sergeant and E-9, sergeant major.

It is true that present E-5's will become sergeants, but sergeant is an honorable rank (the writer proudly bore it for a number of years) and once fitted into the appropriate scheme of things, few E-5's will object to the loss of the word "staff."

In the field of technicians, or non-line men, rank designations would go like this: E-1 through E-5, private through sergeant, as above; E-6, staff sergeant; E-7, technical sergeant; E-8 master sergeant and E-9, master technical sergeant.

Again there would be a matter of loss of face, perhaps, in the case of E-7's who would become "techs." However, as these designations came into effect they would also become effective, *i.e.*, one would know that an E-7 technical sergeant was indeed an experienced and capable technician in his own particular occupational field.

Similarly, as we now know, the sergeant major is the most capable line NCO. We would know that the master technical sergeant was indeed a master technician ranking as *the technician* in his field.

Now, to the matter of visual rank designations. The private first class is not an NCO; therefore, let us give him a single chevron upside down. When he qualifies for lance corporal (our probationary NCO), the chevron would be reversed. Corporals and sergeants would wear 2 and 3 stripes respectively. Regardless of pay grades, these chevrons have become synonymous with the ranks they designate.

In pay grades E-6 and above "rockers" and "bars" would serve to differentiate between line and non-line NCOs.

In the line, one rocker would designate a platoon sergeant; 2 rockers, gunnery sergeant; 3 rockers and a diamond, first sergeant; and 3 rockers and a star, sergeant major.

On the technicians' side, one bar would designate a staff sergeant; 2 bars, technical sergeant; 3 bars, master sergeant; and 3 bars with an appropriate insignia for his occupational field, master technical sergeant.

Since there would be no difference in chevrons through E-5, no change would have to be made in current stocks. There would only be a limited number of master technical sergeants so that the master sergeant's chevron could be used with the distinguishing insignia being sewn in separately.

These proposals, if carried out, would result in a reasonable rank structure from E-1 through E-9 with titles that would more nearly approximate the Marine's actual capabilities. Further, by the use of rockers" and "bars," senior Marine NCO's would be easily distinguishable.

One would know that first sergeants and sergeants major are definitely "line" people, and that master sergeants and master technical sergeants are definitely technical people.

And all occupational fields would have a complete rank structure from E-1 to E-9 with no "line crossing."

Capt Walt Swindells

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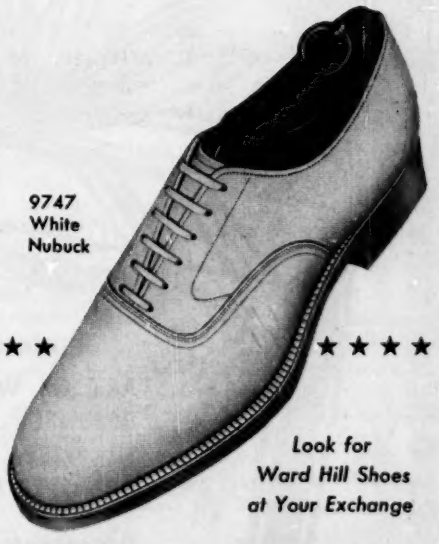

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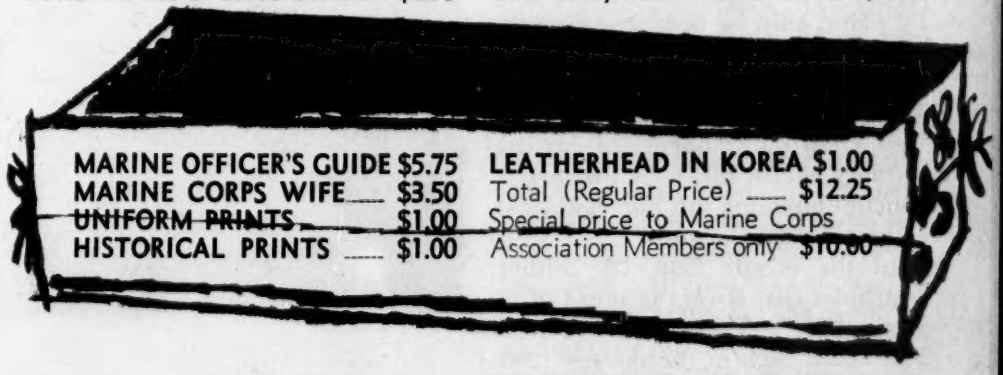
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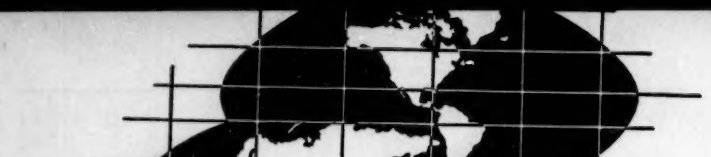

PASSING IN REVIEW

THE GREAT ARMS RACE

HANSON W. BALDWIN. 116 pages, illustrated; Frederick A. Praeger, Inc., NY. $2.95

If the alarm sirens of all out nuclear war were to sound in American cities tomorrow, who would win? Could we retaliate? Where do we stand with the Russians?

These are the questions to which the author of the *The Great Arms Race* addresses himself. Coming after Sputnik and the winter of discontent in which there were widespread cries of despair from political leaders and the press, this book is a timely and sobering reappraisal of the military posture of the US versus the USSR. It is neither a gloomy nor an overoptimistic appraisal, but rather a factual, comprehensive comparison of relative strengths.

Hanson Baldwin has provided an excellent summary of opposing strengths, missile by missile, plane by plane, ship by ship and division by division. Highly readable charts and graphs add clarity to discussion. While most of his facts are generally well known to students of current military affairs, this book provides a concise summing up for both the military and lay reader.

In the missile field, the author concludes that Russia is ahead of us in the long and intermediate ranges and about even in the shorter (200-700 mile) ranges. In piloted bombers, the US has a commanding lead in quantity, quality and know-how. Our nuclear stockpile is now superior but this factor loses significance as both sides approach "enough."

As to naval power, Mr. Baldwin concedes the overwhelming superiority of the Soviet submarine fleet, but gives the nod to the US in overall balance, numerical strength and global naval experience. He exhibits an unusual enthusiasm for the Polaris missile fired from a nuclear submarine, an enthusiasm which the reader might well view with some caution since this is still essentially an untried weapon systems.

The author's analysis of the land power struggle is a familiar one. Here lies Russia's greatest advantage —even greater than in the long-range missile field. Not only does the Russian maintain a large numerical superiority, he has modernized his land warfare organization and equipment until, qualitatively, they are at least on a par with, and probably surpass, our own. No credence is given to the frequent Soviet announcements of reductions in their vast armies; this Mr. Baldwin believes, is so much propaganda.

So much for the question of where we now stand. The answer to this question, from the author's analysis, is a composite of strengths and weaknesses. The Russians are ahead of us in some areas; we are ahead of them in others.

What does he suggest that we do?

He suggests a number of courses of action which, to this reader, appear sensible and reflect the authors ability as one of the foremost spokesmen on military affairs.

First, he deplores the tendency on the part of those in this country who would panic at the might of the Russian Bear; yet, he recommends that we "run scared" because of 1) the rate of Soviet progress 2) the narrow base of our present superiority, (i.e., piloted plane with nuclear weapon) and 3) the loss of our historic geographic invulnerability. By marshalling the industrial and intellectual potential, courage and judgment which are available in the US, the author believes that we can maintain our present tenuous lead —and eventually gain on the Soviets

Secondly, Mr. Baldwin calls for a balance in our military capability. The Soviet armed forces, capable less than 10 years ago of fighting only a war with conventional (non-nuclear) weapons, have developed a powerful nuclear capability without weakening their conventional capability. Meanwhile our strategic concept has been based fundamentally upon nuclear deterrence—with the resultant debilitation of our capacity to wage conventional warfare on any appreciable scale. The author believes that we have a tremendous capability for "massive retaliation" but much too little for swift reaction to small scale conventional aggression. He rejects this short-sighted, one-concept strategy and calls for judgment and balance as well as speed up in the nation's military efforts.

Mr. Baldwin's discussion of defense organization is of singular interest and is particularly illustrative of his keen insight into the problem. (Note: This discussion was published in *The New York Times* prior to passage of the Defense Reorganization Act of 1958). In this analysis he rejects almost the entire philosophy of the reorganization. Without going into detail in this review it can only be said that the author put his finger squarely on the real issue when he stated:

"The problem of our security organization is not so much an inter-service problem as it is a civilian-military problem. Most, though not all, of the nation's military deficiencies today stem directly from civilian decisions. These include the major reductions in the military budgets between WWII and the Korean War, and the dominant 'balanced-budget' philosophy of the Secretary of the Treasury and the

Director of the Budget Bureau during President Eisenhower's first term.

"For several years after the Joint Chiefs were established, they could get no clear-cut statement of national objectives from the National Security Council upon which to base strategic plans. Our overconcentration on the nuclear 'massive retaliation' strategy was a product of National Security Council debate, foreign policy requirements, and President Eisenhower's decision; it was not made in the Pentagon. In 1957 and in 1956, the nation's intelligence agencies repeatedly reported explicit evidence of numerous Soviet ballistic missile launchings, but no action was taken as a result of these reports; in fact civilian, not military, leaders cut budget requests that would have resulted in speeding our program. And, as a crowning irony, the much-publicized Gaither report — a report of a private group of citizens to the National Security Council —recommended that the Administration spend the same increased budget on defense that the Joint Chiefs of Staff had urged futilely upon their civilian superiors earlier in 1957."

Statesmen and patriots would do well to study carefully this section of Mr. Baldwin's book.

Finally, in "the great arms race" there are the People. The last and fundamental line of defense of a country is its people.

"Men are the soul of battle; even in the age of the missile and the conquest of space, Man, not the Machine, controls the nation's destiny. No matter what transpires, we face a destiny of danger and risks. We can never expect absolute or complete security; there is no such thing. If the nation strives for it, psychologically or actually, we doom ourselves."

On this note, the author closes. Hope, courage, resolution and judgment along with the willingness to sacrifice — these are the essentials of the great power struggle.

Reviewed by Col O. V. Calhoun, Jr.

Ed: The reviewer is a Naval aviator assigned to MCS, Quantico, Va.

KEY TO VICTORY — The Triumph of British Sea Power in World War II

LTCDR P. K. KEMP. Maps, illustrations, index. 383 pages. Little, Brown & Co., Boston. $6.00

At first glance, the title of this book seems to be an outlandish boast. A prospective reader might understandably be fearful of encountering far-fetched reasoning and fuzzy logic. The first few chapters do little to dispel this fear. Rather they seem dedicated to laying the foundation for an alibi — a colossal alibi for the complete ineffectiveness of British sea power. However, the author is merely reviewing the record of tragic mistakes that almost sunk the British Navy and lost WWII before the first shot was fired.

Even though hindsight is always so much clearer than foresight, it is still hard to understand how the Parliament persuaded itself that sea power had been replaced by air power. Readily admitting that the nation was founded on sea power, the British nevertheless, in the late twenties and thirties, put all their Empire's eggs in the virtually untried air power basket. It seems incredible but it's true and as a result, the English tottered on the brink of disaster for months on end that grew into years while they tried desperately to build an adequate fleet.

The most incredible thing about the whole mess is that the air power myth never lost its attractiveness.

LtCdr Kemp, as head of the Admiralty's Historical Section and archivist of the Admiralty Library had access to both the British and German official accounts. He has told only so much of the story of WWII as is necessary to show sea power in its proper relationship to the whole. In doing this he employed a broad brush. However, the picture is complete. Those incidents, battles, and campaigns which illustrate his thesis are dealt with in more detail but still rather broadly. This is not to say that he overlooks or neglects incidents or details that are detrimental to his thesis. On the contrary, if he has erred, it is in the other direction. Nothing has been left out, the author includes it all.

Through the book runs the one thread—when things were the blackest, the fleet always came through. First at Dunkirk, then in the Mediterranean and particularly at Malta, in the Atlantic, in the Arctic, and finally behind the Normandy beaches. Without the pressure she exerted from the sea and the materials delivered to her by sea in spite of U-boats and commerce raiders, the British Empire would certainly have succumbed to Hitler.

In so short a book, it was impossible to deal adequately with the Pacific. However, this fact is acknowledged by the author and he does include the salient facts.

Reviewed by Col W. F. Prickett

Ed: This reviewer is presently on duty with FMFPac.

TURKISM AND THE SOVIETS

COL CHARLES W. HOSTLER, USAF. 204 pages. George Allen & UNWIN Ltd., London; Frederick A. Praeger, Inc., New York. $7.00

Written by a professional military observer and scholar who has served in Turkey, the Arab States, the Balkans and Europe, Col Hostler in *Turkism and the Soviets* enthusiastically delves into the complexity of Turkish history, sociology, ideology and nationalism, as well as into other facets of Turkism, in an attempt to give an understanding of the peoples who border on the southern expanses of the USSR and who still remain kin to the millions who are enmeshed within the Union. Although it appears that the author is additionally attempting to establish the international importance of the 54 million Turkic speaking peoples and of the Turks upon the Soviet Union, as indicated by the title, the reader receives little conclusive information in that direction. Actually one wonders why the book was so titled since the influence of the Russian Empire under the Tsars, for a period of nearly five and a half centuries, had more effect on the configuration of Turkism than has had the Soviet Union which has been so occupied only since early 1920.

The book can be best said to be a compilation of 3 academic essays, independent in form but logically

directed toward a single associated area. The first, and by far the most important contribution of the author, is a "Handbook of the Turkish Peoples of the World" in which a brief sketch of the origins and history of the Turkish people is followed by a study of each of the separated ethnic divisions. In discussing the Caucasian Turks, the Azerbaijanis, the Kazak Tatars, the Chuvashes, the Bashkirs, Uzbeks, Kara-Kalpaks, to name a few of the multi-dozen, Col Hostler gives valuable light to the military reader and student regarding these mysterious people of the East. Certainly lacking the details required for a complete report, the Handbook nevertheless has timely encyclopedic value in condensed volume and form. The second treatise deals with the "Emergence and Development of Turkism," or Turkish nationalism's history and force, while the third with "Pan Turkism" or the interesting but futile struggle for a union of all Turks in the world. Interesting biographic data on influential leaders of the past century (Cafer Seydahmet Kirimer, Ayas Ishaky, Metmet Emin Rezulzade, and others) follows the author's statement of Ideals and Estimate of Unity among Turks in the USSR today.

Reviewed by Maj E. F. Danowitz

Ed: The reviewer is the author of *Russian Military Terminology* and has a PhD in Slavic Languages.

MR. LINCOLN'S NAVY

RICHARD S. WEST, JR. 328 pages. Longmans, Green and Co., NY. $6.50

The war on the high seas with the dull monotony of blockading 3,549 miles of Confederate coast line has failed to attract the attention of many historians or military writers. For nearly a century authors have thrilled their readers by recounting the great land battles of the Civil War. Names such as Lee, Grant, Jackson and Sherman are familiar to anyone who has read a volume on the conflict. It is regrettable that there has been such a reluctance to analyze the part played by the US Navy and its effect on the outcome of the war.

Relying on the standard bibliographical works, plus the knowledge gained from authoring 2 biographical studies on naval personages in the Civil War, the author has traced the Navy's part from beginning to end. Discussed are the desperate efforts made to save the isolated Union forts in the South, the battles on the rivers, blockade, war on the high seas and the many problems involved in expanding the Navy to nearly 30 times its pre-war strength.

The most significant of the early problems was the prodigious task of establishing an effective naval blockade of the Southern coast from Texas to Virginia. Obviously, a sea service composed of only 23 ships was hopelessly inadequate for the chore at hand. Not only was there a shortage of warships, there was also an absence of officers who were fit to assume the responsibilities inherent with their rank. A peacetime policy of permitting officers to remain on active duty until death was not compatible with the mental and physical requirements of active warfare.

To spark the drive for an efficient Navy Department the President appointed New Englander Gideon Welles as Secretary of the Navy. Throughout the volume the reader feels the impact of the venerable, ex-newspaper publishing Secretary. Overage officers are forcibly retired. Constituent pressure exerted on the Navy is effectively fended off and the political appointees that plagued the Union army are nearly nonexistent in the Navy. Although known for his economical practices, Gideon Welles is not reluctant to experiment in an untried direction. Because of the acceptance of new ideas the Federal Navy soon finds itself in transition between wooden ships and those of iron, presaged by the fight of the *Monitor*. One other attribute of this diary-writing Secretary is his willingness to appoint young promising officers to positions of great responsibility.

Mr. Lincoln's Navy gives the reader a new insight into the problems confronting the North from the outset of the war.

Reviewed by Maj Robert E. Barde

Ed: This reviewer is presently assigned to the Naval ROTC unit at Cornell University.

(Continued on page 70)

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(Continued from page 68)

ROCKETS, MISSILES AND MOONS

CHARLES COOMBS. 256 pages, illustrated; William Morrow and Company, Inc., N.Y. $3.75

During the past few years, and especially in recent months, missiles, rockets, satellites, and space travel have been brought sharply into focus of the general public in the US and the world. Essentially, the public keeps informed of current events via the mediums of mass communications, and seldom receives a fundamental, unadulterated explanation of happenings or events. This is true particularly in the fields mentioned above, where functions and problems are seldom publicized. Usually these media lightly treat the subject and are saturated with conflicting opinions which only add to confusion on the part of the reader or listener. This situation results in the public rarely having the opportunity to be informed in detail. The solution to this is a factual, authentic, and documented explanation of these problems and functions in simple, understandable form. The author, Charles Coombs, has accomplished this without going into extensive and complicated technical talk.

The magnitude and scope of this subject dictates that this work be given the "broad brush" treatment yet still serve to educate and inform. To this end the author plots his course. This might possibly result in a work too elementary for the initiated, but such is not the case. *Rockets, Missiles and Moons* takes the reader from the cave man, where missiles and propulsion were first known, to the present day state of the art which borders on the unbelievable.

The author enters the discussion in Chapter II "How It All Began" by setting forth the various and many applications of propulsion and missiles through the ages. He tells of many ideas not commonly known and constructs a foundation of interest which is satisfied in the following chapters. These chapters fall in a progressive and orderly presentation dealing with basic theory, mission, and hardware employed in ICBM and IRBM missiles and rockets. Ram jet propulsion and rocket propulsion are simply explained and their employment made known. The control, guidance, and electronic systems utilized in the various missiles are explained and defined. All these are referred to in the every-day papers, radio, and TV casts, but the detail is lacking. The author tells of the various missiles, and missile projects in being today — both mechanical and theoretical — their mission and usage. This leads to a melding of our missile and air defense systems, a subject that is not too commonly known by, or familiar to, the "Man on the Street." Logically this leads to the source of much discussion, conjecture, and debate of today — PROJECT VANGUARD. Mr. Coombs explains the basic concepts, describes the hardware, and by words and illustration presents a most instructive, interesting and current picture. The authentic terminology, illustrations, and comment are enhanced by a Glossary which is unique to this field.

Mr. Charles Coombs has had experience in aircraft building and high speed flying. While collecting facts and conducting research for this work he spent many months with the Army, Navy, Air Force and Department of Defense agencies.

Reviewed by LtCol P. H. Kellogg

Ed: The reviewer is stationed at MCS, Quantico on the Marine Corps Equipment Board, MCLFDC.

THE UNITED STATES AIR FORCE REPORT ON THE BALLISTIC MISSILE

Edited by LtCol Kenneth F. Gantz, USAF. 338 pages; illustrated. Doubleday & Company, Inc., NY. $4.00

In the brief span of years since the end of WWII, long-range ballistic missiles have progressed from the status of "Buck Rogers fantasies" to important additions in the US (and Soviet) arsenal of weapons. Many have hailed the intercontinental missile as the ultimate weapon and the beginning of push-button warfare. Others have been skeptical of its value. *The United States Air Force Report on the Ballistic Missile* is an unofficial but authentic book on the development and present status of intermediate-range and

(Continued on page 72)

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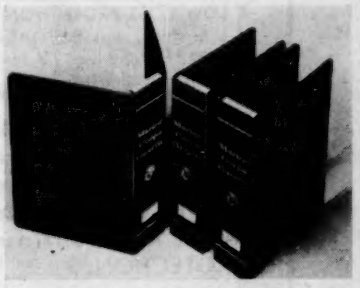

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(Continued from page 70)

intercontinental ballistic missiles as weapons for the Strategic Air Command. Included in the book are commentaries on the technical and scientific aspects of missiles, as well as evaluation of the impact of missiles on concepts, tactics and techniques of air warfare.

During the initial years following WWII, ballistic missile development was not heavily stressed by the Air Force since air-breathing guided missiles offered simpler and better solutions to the problems of range, payload and accuracy; however, following the thermonuclear breakthrough of 1952-53, the potential value of long-range ballistic missiles was reevaluated by a committee of distinguished scientists headed by the late Professor John von Neumann, then of the Princeton Institute for Advanced Study and later an AEC Commissioner. Result of this study was an acceleration of the ballistic missile program on a priority basis which has continued to the present day with annual expenditures averaging one billion dollars.

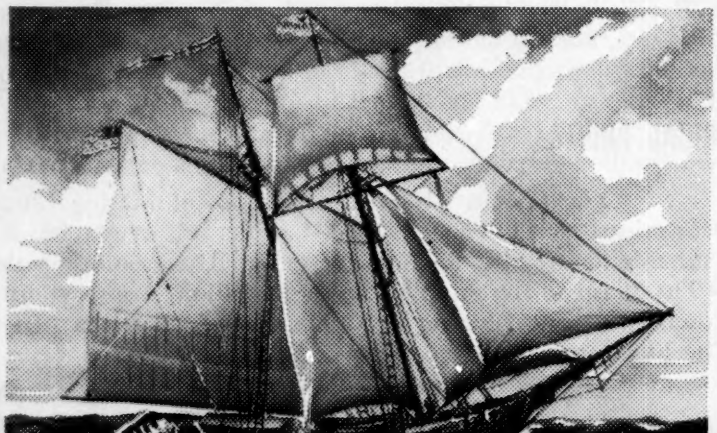
Although technically a rifle bullet or an artillery shell is a ballistic missile, the term as presently used implies a projectile which is rocket-propelled and guided during the first portion of its flight but later travels a natural and uncontrolled trajectory through outer space before reaching a distant target on the earth's surface. While a single missile could cover all ranges, many operational and technical problems would be introduced. For this reason, the Air Force has developed 2 separate families of missiles — one termed an Intermediate Range Ballistic Missile (IRBM) and designed for optimum performance at 1500 miles, and the other developed for top performance characteristics at 5500 nautical miles and known as the Intercontinental Ballistic Missile (ICBM). IRBM Thor is now being delivered to operational squadrons in SAC; in the ICBM class both Atlas and Titan are well advanced in the development stage.

Each chapter of this book is written by a technical expert or senior officer in the Air Force missile program. Among the contributors are Gen Thomas D. White, Chief of Staff, USAF; Gen Thomas Power, Commander in Chief, Strategic Air Command; MajGen Bernard Schriever, Commander of the Ballistic Missile Division, Air Research and Development Command; and MajGen Ben I. Funk, Director of the Ballistic Missile Office, Air Materiel Command. In an interesting appendix, civilian experts discuss in generally simple language the technical aspects and scientific principles of ballistic missiles.

Basically this book is a professional review of the Ballistic Missile Program in the USAF, written originally by top Air Force missilemen and technical experts for publication in the *Air University Quarterly Review*. Every facet of the program, from an operational viewpoint as well as the technical side, is covered in detail; the present and future capabilities and limitations of long-range ballistic missiles in strategic air warfare are frankly appraised. Though the intercontinental ballistic missile is not now, and will not in the future be, the ultimate weapon, certainly its impact on warfare will be significant. For a general background and understanding of that impact, *The United States Air Force Report on the Ballistic Missile* is recommended reading.

Reviewed by Col K. C. Houston

Ed: This reviewer is presently assigned as Inspector, MCS, Quantico, Va.



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UNITED STATES MARINE CORPS

Today Marines throughout the world celebrate the 183d anniversary of our beloved Corps. Today we honor the long line of Marines who have preceded us. Today we reflect with pride upon the heritage they have bequeathed to us -- a name high in the annals of our nation's history and in military history throughout the world.

The past year has been an eventful one for the Marine Corps. On more than one occasion Marine units have been deployed on short notice to distant places. As always, the Marines were ready to move immediately, ready to perform any task assigned to them. This instant readiness is at once our responsibility and our pride. While our past accomplishments have been enviable, we must never be content to rest on our laurels. In an uneasy world threatened by ruthless aggression we must, in the years to come, not only maintain but further develop the readiness which characterizes our Corps. We must strive constantly to improve our weapons and techniques -- we must continue our rigorous and relentless training. And above all else we must cherish and keep alive the indomitable spirit that has been the hallmark of the Marine Corps since the first recruits were enlisted at Tun Tavern in 1775. I have full confidence that we will do so, that all of us will meet the challenge of the future in a manner which will add lustre to the high name we have inherited from those Marines who have gone before us.

It is therefore with real pleasure that I extend my personal congratulations and best wishes to all Marines -- throughout the world, at home and abroad, regular and reserve -- and to all Marine families on this significant occasion, the 183d birthday of the United States Marine Corps.

R. McC. PATE
General, U. S. Marine Corps
Commandant of the Marine Corps